10/26/2005
Bank: (Sport Pilot Instructor/Examiner)
Airman Knowledge Test Question Bank

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1. H303 CFI

(Refer to figure 18.) A 70 percent increase in stalling speed would imply a bank angle of

A) 67°.

B) 70°.

C) 83°.

2. H303 CFI

If severe turbulence is encountered, the aircraft's airspeed should be reduced to

A) maneuvering speed.

B) normal structural cruising speed.

C) the minimum steady flight speed in the landing configuration.

3. H303 CFI

(Refer to figure 17.) A positive load factor of 4 at 140 knots would cause the airplane to

A) stall.

B) break apart.

C) be subjected to structural damage.

4. H300 CFI

(Refer to figure 20.) At the airspeed represented by point A, in steady flight, the aircraft will

A) have its maximum lift/drag ratio.

B) have its minimum lift/drag ratio.

C) be developing its maximum coefficient of lift.

5. H924 CFI

Adverse yaw during a turn entry is caused by

A) increased induced drag on the lowered wing and decreased induced drag on the raised wing.

B) decreased induced drag on the lowered wing and increased induced drag on the raised wing.

C) increased parasite drag on the raised wing and decreased parasite drag on the lowered wing.

6. H300 CFI

The angle between the chord line of an airfoil and the relative wind is known as the angle of

A) lift.

B) attack.

C) incidence.

7. H300 CFI

An aircraft wing is designed to produce lift resulting from

A) negative air pressure below the wing's surface and positive air pressure above the wing's surface.

B) positive air pressure below the wing's surface and negative air pressure above the wing's surface.

C) a larger center of pressure above the wing's surface and a lower center of pressure below the wing's surface.

8. H300 CFI

As airspeed increases in level flight, total drag of an aircraft becomes greater than the total drag produced at the maximum lift/drag speed because of the

A) increase in induced drag.

B) decrease in induced drag.

C) increase in parasite drag.

9. H534 CFI

(Refer to figure 22.) While rolling into a right turn, if the inclinometer appears as illustrated in A, the HCL and CF vectors would be acting on the aircraft as illustrated in

A) 2, and more left pedal pressure is needed to center the ball.

B) 2, and more right pedal pressure is needed to center the ball.

C) 4, and more right pedal pressure is needed to center the ball.

10. H536 CFI

In a propeller-driven airplane, maximum range occurs at

A) minimum drag required.

B) minimum power required.

C) maximum lift/drag ratio.

11. H300 CFI

The angle of attack of a wing directly controls the

A) angle of incidence of the wing.

B) amount of airflow above and below the wing.

C) distribution of positive and negative pressure acting on the wing.

12. H539 CFI

Which statement is true relating to the factors which produce stalls?

A) The critical angle of attack is a function of the degree of bank.

B) The stalling angle of attack depends upon the speed of the airflow over the wings.

C) The stalling angle of attack is independent of the speed of airflow over the wings.

13. H300 CFI

Which action will result in a stall?

A) Flying at too low an airspeed.

B) Raising the aircraft's nose too high.

C) Exceeding the critical angle of attack.

14. H300 CFI

Why does increasing speed also increase lift?

A) The increased velocity of the relative wind overcomes the increased drag.

B) The increased impact of the relative wind on an airfoil's lower surface creates a greater amount of air being deflected downward.

C) The increased speed of the air passing over an airfoil's upper surface increases the pressure, thus creating a greater pressure differential between the upper and lower surface.

15. H302 CFI

The three axes of an aircraft intersect at the

A) center of gravity.

B) center of pressure.

C) midpoint of the mean chord.

16. H302 CFI

An airplane would have a tendency to nose up and have an inherent tendency to enter a stalled condition when the center of pressure is

A) below the center of gravity.

B) aft of the center of gravity.

C) forward of the center of gravity.

17. H534 CFI

When rolling out of a steep-banked turn, what causes the lowered aileron to create more drag than when rolling into the turn?

A) The wing's angle of attack is greater as the rollout is started.

B) The wing being raised is traveling faster through the air than the wing being lowered.

C) The wing being lowered is traveling faster through the air and producing more lift than the wing being raised.

18. H540 CFI

Which statement is true concerning the aerodynamic conditions which occur during a spin entry?

A) After a full stall, both wings remain in a stalled condition throughout the rotation.

B) After a partial stall, the wing that drops remains in a stalled condition while the rising wing regains and continues to produce lift, causing the rotation.

C) After a full stall, the wing that drops continues in a stalled condition while the rising wing regains and continues to produce some lift, causing the rotation.

19. H300 CFI

Lift produced by an airfoil is the net force developed perpendicular to the

A) chord.

B) relative wind.

C) longitudinal axis of the aircraft.

20. H300 CFI

During a steady climb, the angle of climb depends on

A) excess thrust.

B) power available

C) thrust required.

21. H302 CFI

If the aircraft's nose remains in the new position after the elevator control is pressed forward and released, the aircraft displays

A) neutral static stability.

B) negative static stability.

C) positive static stability.

22. H1017 CFI

Aspect ratio of a wing is defined as the ratio of the

A) wingspan to the wing root.

B) wingspan to the mean chord.

C) square of the chord to the wingspan.

23. H1019 CFI

At a constant velocity in airflow, a high aspect ratio wing will have (in comparison with a low aspect ratio wing)

A) increased drag, especially at a low angle of attack.

B) decreased drag, especially at a high angle of attack.

C) increased drag, especially at a high angle of attack.

24. H1019 CFI

(Refer to figure 21.) Which aircraft has the highest aspect ratio?

A) 2.

B) 3.

C) 4.

25. H539 CFI

If an accelerated stall occurs in a steep turn, how will the aircraft respond?

A) The inside wing stalls first because it is flying at a higher angle of attack.

B) The outside wing stalls first because it is flying at a higher angle of attack.

C) In a slip, the high wing stalls first; in a skid, the low wing stalls first; in coordinated flight, both wings stall at the same time.

26. H300 CFI

The resistance, or skin friction, due to the viscosity of the air as it passes along the surface of a wing is called

A) form drag.

B) profile drag.

C) parasite drag.

27. H300 CFI

Which statement relates to Bernoulli's principle?

A) For every action there is an equal and opposite reaction.

B) An additional upward force is generated as the lower surface of the wing deflects air downward.

C) Air traveling faster over the curved upper surface of an airfoil causes lower pressure on the top surface.

28. H300 CFI

(Refer to figure 19.) At which angle of attack does the airplane travel the maximum horizontal distance per foot of altitude lost?

A) 6°.

B) 12.3°.

C) 20°.

29. H300 CFI

Changes in the center of pressure of a wing affect the aircraft's

A) lift/drag ratio.

B) lifting capacity.

C) aerodynamic balance and controllability.

30. H302 CFI

The tendency of an aircraft to develop forces that further remove the aircraft from its original position, when disturbed from a condition of steady flight, is known as

A) static instability.

B) dynamic instability.

C) positive static stability.

31. W16 CFI

Which aircraft characteristics contribute to spiral instability?

A) Weak static directional stability and weak dihedral effect.

B) Strong static directional stability and weak dihedral effect.

C) Weak static directional stability and strong dihedral effect.

32. H302 CFI

If the aircraft's nose initially tends to return to its original position after the elevator control is pressed forward and released, the aircraft displays

A) positive static stability.

B) neutral dynamic stability.

C) negative dynamic stability.

33. H302 CFI

The capability of an aircraft to respond to a pilot's inputs, especially with regard to flightpath and attitude, is

A) response.

B) controllability.

C) maneuverability.

34. H302 CFI

As a result of gyroscopic precession, it can be said that any

A) pitching around the lateral axis results in a rolling moment.

B) yawing around the vertical axis results in a pitching moment.

C) pitching around the longitudinal axis results in a yawing moment.

35. H302 CFI

The purpose of aircraft wing dihedral angle is to

A) increase lateral stability.

B) increase longitudinal stability.

C) increase lift coefficient of the wing.

36. H302 CFI

If an increase in power tends to make the nose of an airplane rise, this is the result of the

A) line of thrust being below the center of gravity.

B) center of lift being ahead of the center of gravity.

C) center of lift and center of gravity being collocated.

37. H316 CFI

What is the effect of center of gravity on the spin characteristics of an aircraft?

A) A flat spin may develop if the CG is too far aft.

B) If the CG is too far forward, spin entry will be difficult.

C) If the CG is too far aft, spins can become high-speed spirals.

38. H316 CFI

What is characteristic of the indicated airspeed if the CG is at the most forward allowable position and constant power and altitude are maintained?

A) There is no relationship between CG location and indicated airspeed.

B) Indicated airspeed will be less than it would be with the CG in the most rearward allowable position.

C) Indicated airspeed will be greater than it would be with the CG in the most rearward allowable position.

39. H316 CFI

If the CG of an aircraft is moved from the aft limit to beyond the forward limit, how will it affect the cruising and stalling speed?

A) Increase both the cruising speed and stalling speed.

B) Decrease both the cruising speed and stalling speed.

C) Decrease the cruising speed and increase the stalling speed.

40. H316 CFI

An aircraft is loaded with the CG aft of the aft limit. What effect will this have on controllability?

A) Stall and spin recovery may be difficult or impossible.

B) A stall will occur at a lower airspeed, but recovery will be easier because of reduced wing loading.

C) A stall will occur at a higher indicated airspeed due to the greater downloading on the elevator.

41. H316 CFI

As the CG location is changed, recovery from a stall becomes progressively

A) less difficult as the CG moves rearward.

B) more difficult as the CG moves rearward.

C) more difficult as the CG moves either forward or rearward.

42. H1068 CFI

Which characteristic of a spin is not a characteristic of a steep spiral?

A) Stalled wing.

B) High rate of rotation.

C) Rapid loss of altitude.

43. H527 CFI

It is possible to fly an aircraft just clear of the ground at a slightly slower airspeed than that required to sustain level flight at higher altitudes. This is the result of

A) interference of the ground surface with the airflow patterns about the aircraft in flight.

B) a cushioning effect of the air as it is trapped between the ground and the descending aircraft.

C) ground interference with the static pressure system which produces false indications on the airspeed indicator.

44. H527 CFI

An airplane leaving ground effect will

A) experience a decrease in thrust required.

B) experience a decrease in stability and a noseup change in moments.

C) require a lower angle of attack to attain the same lift coefficient.

45. H317 CFI

(Refer to figure 30.) Determine the approximate crosswind component.

Landing Rwy 22

Wind 260° at 23 kts

A) 10 knots.

B) 15 knots.

C) 17 knots.

46. H921 CFI

(Refer to figure 25.) What would be the indicated stall speed in a 60° banked turn with the gear and flaps up?

A) 110 KIAS.

B) 117 KIAS.

C) 121 KIAS.

47. H317 CFI

(Refer to figure 29.) What is the approximate glide distance?

Height above terrain	10,500 ft
Tailwind	20 kts

A) 24 miles.

B) 26 miles.

C) 28 miles.

48. H317 CFI

(Refer to figure 27.) What indicated airspeed at 3,000 feet would result in the greatest increase in altitude for a given distance?

A) 94 KIAS.

B) 113 KIAS.

C) 115 KIAS.

49. H317 CFI

(Refer to figure 26.) Determine the takeoff distance required to clear a 50-foot obstacle.

Temperature	23 °C
Pressure altitude	3,000 ft
Weight	2,400 lb
Headwind	15 kts

A) 653 feet.

B) 718 feet.

C) 754 feet.

50. H317 CFI

(Refer to figure 24.) Determine the density altitude.

Airport elevation	3,795 ft
OAT	24 °C
Altimeter setting	29.70 inches Hg

A) 5,900 feet.

B) 5,700 feet.

C) 4,000 feet.

51. H317 CFI

(Refer to figure 31.) What is the total landing distance over a 50-foot obstacle?

Temperature	15 °C
Pressure altitude	4,000 ft
Weight	3,000 lb
Headwind	22 kts

A) 1,250 feet.

B) 1,175 feet.

C) 1,050 feet.

52. H317 CFI

Which statement is true regarding takeoff performance with high density altitude conditions?

A) The acceleration rate will increase since the lighter air creates less drag.

B) The acceleration rate is slower because the engine and propeller efficiency is reduced.

C) A higher-than-normal indicated airspeed is required to produce sufficient lift since the air is less dense.

53. H303 CFI

Which is the best technique for minimizing the wing-load factor when flying in severe turbulence?

A) Control airspeed with power, maintain wings level, and accept variations of altitude.

B) Control airspeed as closely as possible with elevator and power, and accept variations of bank and altitude.

C) Set power and trim to obtain an airspeed at or below maneuvering speed, maintain wings level, and accept variations of airspeed and altitude.

54. H306 CFI

An electrical system failure (battery and alternator) occurs during flight. In this situation, you would

A) experience avionics equipment failure.

B) probably experience failure of the engine ignition system, fuel gauges, aircraft lighting system, and avionics equipment.

C) probably experience engine failure due to the loss of the engine-driven fuel pump and also experience failure of the radio equipment, lights, and all instruments that require alternating current.

55. H305 CFI

Which type of flap creates the least change in pitching moment?

A) Split.

B) Fowler.

C) Slotted.

56. H305 CFI

(Refer to figure 23.) Which is a slotted flap?

A) 1.

B) 3.

C) 4.

57. H933 CFI

What should be the indication on the magnetic compass as you roll into a standard rate turn to the right from a south heading in the Northern Hemisphere?

A) The compass will initially indicate a turn to the left.

B) The compass will indicate a turn to the right, but at a faster rate than is actually occurring.

C) The compass will remain on south for a short time, then gradually catch up to the magnetic heading of the airplane.

58. H314 CFI

In the Northern Hemisphere, a magnetic compass will normally indicate a turn toward the north if

A) a left turn is entered from a west heading.

B) an aircraft is decelerated while on an east or west heading.

C) an aircraft is accelerated while on an east or west heading.

59. H313 CFI

Which instrument would be affected by excessively low pressure in the airplane's vacuum system?

A) Heading indicator.

B) Airspeed indicator.

C) Pressure altimeter.

60. H307 CFI

To properly purge water from the fuel system of an aircraft equipped with fuel tank sumps and a fuel strainer quick drain, it is necessary to drain fuel from the

A) fuel strainer drain.

B) lowest point in the fuel system.

C) fuel strainer drain and the fuel tank sumps.

61. K13 CFI

The amount of water absorbed in aviation fuels will

A) remain the same regardless of temperature changes.

B) increase as the temperature of the fuel increases.

C) increase as the temperature of the fuel decreases.

62. H312 CFI

During power-off stalls with flaps full down, the stall occurs and the pointer on the airspeed indicator shows a speed less than the minimum limit of the white arc on the indicator. This is most probably due to

A) a low density altitude.

B) a malfunction in the pitot-static system.

C) installation error in the pitot-static system.

63. H312 CFI

What airspeed indicator marking identifies the maximum structural cruising speed of an aircraft?

A) Red radial line.

B) Upper limit of the green arc.

C) Upper limit of the yellow arc.

64. H307 CFI

The low temperature that causes carburetor ice in an engine equipped with a float-type carburetor is normally the result of the

A) compression of air at the carburetor venturi.

B) freezing temperature of the air entering the carburetor.

C) vaporization of fuel and expansion of air in the carburetor.

65. H307 CFI

The presence of carburetor ice in an aircraft equipped with a fixed-pitch propeller can be verified by applying carburetor heat and noting

A) a decrease in RPM and then a constant RPM indication.

B) a decrease in RPM and then a gradual increase in RPM.

C) an increase in RPM and then a gradual decrease in RPM.

66. H307 CFI

The operating principle of float-type carburetors is based on the

A) measurement of the fuel flow into the induction system.

B) difference in air pressure at the venturi throat and the throttle valve.

C) increase in air velocity in the throat of a venturi causing a decrease in air pressure.

67. H307 CFI

Excessively high engine temperatures, either in the air or on the ground, will

A) increase fuel consumption and may increase power due to the increased heat.

B) result in damage to heat-conducting hoses and warping of cylinder cooling fans.

C) cause loss of power, excessive oil consumption, and possible permanent internal engine damage.

68. H307 CFI

Which statement is true regarding fouling of the spark plugs of an aircraft engine?

A) Spark plug fouling results from operating with an excessively rich mixture.

B) Carbon fouling of the spark plugs is caused primarily by operating an engine at excessively high cylinder head temperatures.

C) Excessive heat in the combustion chamber of a cylinder causes oil to form on the center electrode of a spark plug and this fouls the plug.

69. H307 CFI

As flight altitude increases, what will occur if no leaning is made with the mixture control?

A) The volume of air entering the carburetor decreases and the amount of fuel decreases.

B) The density of air entering the carburetor decreases and the amount of fuel increases.

C) The density of air entering the carburetor decreases and the amount of fuel remains constant.

70. H927 CFI

Detonation in an aircraft engine is most likely to occur whenever the

A) fuel/air ratio is such that the mixture burns extremely slow.

B) engine is operated under conditions which cause the fuel mixture to burn instantaneously.

C) fuel being used is of a higher grade than recommended by the engine manufacturer.

71. H310 CFI

Proper mixture control and better economy in the operation of a fuel injected engine can be achieved best by use of

A) a fuel-flow gauge.

B) an exhaust gas temperature indicator.

C) the recommended manifold and RPM setting for a particular altitude.

72. H307 CFI

During which stroke of a reciprocating engine is the gaseous mixture expanding within the cylinder?

A) Power.

B) Intake.

C) Compression.

73. H308 CFI

The reason for variations in geometric pitch (twisting) along a propeller blade is that it

A) prevents the portion of the blade near the hub to stall during cruising flight.

B) permits a relatively constant angle of attack along its length when in cruising flight.

C) permits a relatively constant angle of incidence along its length when in cruising flight.

74. H308 CFI

Propeller slip is the difference between the

A) geometric pitch and blade angle of the propeller.

B) geometric pitch and the effective pitch of the propeller.

C) plane of rotation of the propeller and forward velocity of the aircraft.

75. H301 CFI

A propeller rotating clockwise, as seen from the rear, creates a spiraling slipstream that tends to rotate the aircraft to the

A) right around the vertical axis, and to the left around the longitudinal axis.

B) left around the vertical axis, and to the right around the longitudinal axis.

C) left around the vertical axis, and to the left around the longitudinal axis.

76. J10 CFI

Local Airport Advisory service is usually available at all airports

A) with operating control towers.

B) where a Flight Service Station is located on the airport.

C) located in Class C airspace and within 10 NM of the primary airport.

77. J11 CFI

As standard operating practice, all inbound traffic to an airport without a control tower should continuously monitor the appropriate facility from a distance of

A) 25 miles.

B) 20 miles.

C) 10 miles.

78. J05 CFI

What is the purpose of the runway/runway hold position sign?

A) Denotes entrance to runway from a taxiway.

B) Denotes area protected for an aircraft approaching or departing a runway.

C) Denotes intersecting runways.

79. J05 CFI

What is the purpose for the runway hold position markings on the taxiway?

A) Identifies area where aircraft are prohibited.

B) Holds aircraft short of the runway.

C) Allows an aircraft permission onto the runway.

80. J05 CFI

What is the purpose of No Entry sign?

A) Identifies paved area where aircraft are prohibited from entering.

B) Identifies area that does not continue beyond intersection.

C) Identifies the exit boundary for the runway protected area.

81. J05 CFI

When exiting the runway, what is the purpose of the runway exit sign?

A) Indicates direction to take-off runway.

B) Indicates designation and direction of exit taxiway from runway.

C) Indicates designation and direction of taxiway leading out of an intersection.

82. J05 CFI

What does a series of arrows painted on the approach end of a runway signify?

A) That area is restricted solely to taxi operations.

B) That portion of the runway is not suitable for landing.

C) That portion of the runway is the designated touchdown zone.

83. J05 CFI

The numbers 8 and 26 on the approach ends of the runway indicate that the runway is orientated approximately

A) 008° and 026° true.

B) 080° and 260° true.

C) 080° and 260° magnetic.

84. J05 CFI

What does the outbound destination sign identify?

A) Identifies entrance to the runway from a taxiway.

B) Identifies direction to take-off runways.

C) Identifies runway on which an aircraft is located.

85. J05 CFI

When approaching taxiway holding lines from the side with the continuous lines, the pilot

A) may continue taxiing.

B) should not cross the lines without ATC clearance.

C) should continue taxiing until all parts of the aircraft have crossed the lines.

86. J05 CFI

When turning onto a taxiway from another taxiway, what is the purpose of the taxiway directional sign?

A) Indicates direction to take-off runway.

B) Indicates designation and direction of exit taxiway from runway.

C) Indicates designation and direction of taxiway leading out of an intersection.

87. J05 CFI

What is the purpose of the taxiway ending marker sign?

A) Identifies area where aircraft are prohibited.

B) Indicates taxiway does not continue beyond intersection.

C) Provides general taxiing direction to named taxiway.

88. J05 CFI

What is the purpose of the yellow demarcation bar marking?

A) Delineates runway with a displaced threshold from a blast pad, stopway or taxiway that precedes the runway.

B) Delineates entrance to runway from a taxiway.

C) Delineates beginning of runway available for landing when pavement is aligned with runway on approach side.

89. J05 CFI

What purpose does the taxiway location sign serve?

A) Identifies taxiway on which an aircraft is located.

B) Provides general taxiing direction to named runway.

C) Denotes entrance to runway from a taxiway.

90. H516 CFI

To help prevent overturning when taxiing light tricycle-gear airplanes (especially high-wing type) in strong quartering tailwinds, the

A) elevator should be placed in the up position.

B) elevator should be placed in the down position.

C) aileron on the downwind side should be placed in the down position.

91. J11 CFI

Absence of the sky condition and visibility on an ATIS broadcast indicates that

A) weather conditions are at or above VFR minimums.

B) the sky condition is clear and visibility is unrestricted.

C) the ceiling is at least 5,000 feet and visibility is 5 miles or more.

92. J13 CFI

(Refer to figure 54.) The segmented circle indicates that the airport traffic pattern is

A) left-hand for Rwy 17 and right-hand for Rwy 35.

B) right-hand for Rwy 35 and right-hand for Rwy 9.

C) left-hand for Rwy 35 and right-hand for Rwy 17.

93. J13 CFI

The recommended entry position to an airport traffic pattern is

A) 45° to the base leg just below traffic pattern altitude.

B) to enter 45° at the midpoint of the downwind leg at traffic pattern altitude.

C) to cross directly over the airport at traffic pattern altitude and join the downwind leg.

94. J27 CFI

During a takeoff made behind a departing large jet airplane, the pilot can minimize the hazard of wingtip vortices by

A) remaining below the jet's flightpath until able to turn clear of its wake.

B) extending the takeoff roll and not rotating until well beyond the jet's rotation point.

C) being airborne prior to reaching the jet's flightpath until able to turn clear of its wake.

95. J27 CFI

How does the wake turbulence vortex circulate around each wingtip?

A) Inward, upward, and around each tip.

B) Inward, upward, and counterclockwise.

C) Outward, upward, and around each tip.

96. J09 CFI

Flight through a restricted area should not be accomplished unless the pilot has

A) filed an IFR flight plan.

B) received prior authorization from the controlling agency.

C) received prior permission from the commanding officer of the nearest military base.

97. J08 CFI

Within the contiguous United States, the floor of Class A airspace is

A) 14,500 feet MSL.

B) 18,000 feet MSL.

C) 18,000 feet AGL.

98. J08 CFI

(Refer to figure 47.) Which altitude (box 1) is applicable to the vertical extent of the surface and shelf areas?

A) 3,000 feet AGL.

B) 3,000 feet above airport.

C) 4,000 feet above airport.

99. J08 CFI

(Refer to figure 47.) What is the radius of the shelf area (circle A)?

A) 5 miles.

B) 10 miles.

C) 15 miles.

100. J08 CFI

(Refer to figure 46.) What is the ceiling of the Class C airspace surrounding San Jose International Airport (area 2)?

A) 2,500 feet AGL.

B) 4,000 feet MSL.

C) 6,000 feet MSL.

101. J08 CFI

(Refer to figure 45.) Assuming owner permission, what minimum avionics equipment is required for operation into Cuddihy Airport (area 8)?

A) Two-way radio communications equipment.

B) None, if altitude remains at or below 1,200 feet MSL.

C) Two-way radio communications equipment and transponder with encoding altimeter.

102. J08 CFI

(Refer to figure 44.) Where does the floor of controlled airspace begin over Saginaw Airport (area 1)?

A) Surface.

B) 700 feet AGL.

C) 4,000 feet MSL.

103. J08 CFI

With certain exceptions, Class E airspace extends upward from either 700 feet or 1,200 feet AGL to, but does not include,

A) 10,000 feet MSL.

B) 14,500 feet MSL.

C) 18,000 feet MSL.

104. J08 CFI

To operate an aircraft within Class C airspace from a satellite airport without an operating control tower, a pilot must

A) monitor ATC until clear of the Class C airspace.

B) contact ATC as soon as practicable after takeoff.

C) secure prior approval from ATC before takeoff at the airport.

105. J11 CFI

(Refer to figure 44.) What minimum avionics equipment is necessary to operate in the airspace up to 3,000 feet MSL over Northwest Airport (area 2)?

A) None required.

B) Transponder and encoding altimeter.

C) Two-way radio communications equipment, transponder, and encoding altimeter.

106. J09 CFI

When operating VFR in a military operations area (MOA), a pilot

A) must operate only when military activity is not being conducted.

B) should exercise extreme caution when military activity is being conducted.

C) must obtain a clearance from the controlling agency prior to entering the MOA.

107. J09 CFI

(Refer to figure 45.) What are the requirements for operating in the alert area (area 6) just west of Corpus Christi International Airport (area 3)?

A) Contact with approach control on frequency 120.9 is required.

B) Prior permission must be obtained from the controlling agency.

C) There are no requirements, but pilots should be extremely cautious due to extensive student training.

108. J08 CFI

When a control tower, located on an airport within Class D airspace, ceases operation for the day, what happens to the airspace designation?

A) The airspace designation normally will not change.

B) The airspace remains Class D airspace as long as a weather observer or automated weather system is available.

C) The airspace reverts to Class E or a combination of Class E and G airspace during the hours the tower is not in operation.

109. H556 CFI

What normally results from excessive airspeed on final approach?

A) Bouncing.

B) Floating.

C) Ballooning.

110. H549 CFI

What could be a result of a student focusing too far ahead during a landing approach?

A) Reactions will be either too abrupt or too late.

B) Rounding out too high and developing an excessive sink rate.

C) Difficulty in judging the closeness of the ground resulting in a nose-first touchdown.

111. L34 CFI

Most midair collision accidents occur during

A) hazy days.

B) clear days.

C) cloudy nights.

112. J11 CFI

When an air traffic controller issues radar traffic information in relation to the 12-hour clock, the reference the controller uses is the aircraft's

A) true course.

B) ground track.

C) magnetic heading.

113. H550 CFI

Under normal conditions, a proper crosswind landing on a runway requires that, at the moment of touchdown, the

A) direction of motion of the aircraft and its longitudinal axis be parallel to the runway.

B) downwind wing be lowered sufficiently to eliminate the tendency for the aircraft to drift.

C) direction of motion of the aircraft and its lateral axis be perpendicular to the runway.

114. H583 CFI

If an emergency situation requires a downwind landing, pilots should expect a faster

A) airspeed at touchdown, a longer ground roll, and better control throughout the landing roll.

B) groundspeed at touchdown, a longer ground roll, and the likelihood of overshooting the desired touchdown point.

C) groundspeed at touchdown, a shorter ground roll, and the likelihood of undershooting the desired touchdown point.

115. H549 CFI

If poor aircraft controllability is experienced during an emergency go-around with full flaps, the cause is most probably due to

A) excessive airspeed with full flaps extended.

B) the high-power, low-airspeed situation with the airplane trimmed for a full-flap configuration.

C) a reduction in the angle of attack with full flaps to the point where the aircraft control is greatly impaired.

116. H532 CFI

Select the four flight fundamentals involved in maneuvering an aircraft.

A) Aircraft power, pitch, bank, and trim.

B) Starting, taxiing, takeoff, and landing.

C) Straight-and-level flight, turns, climbs, and descents.

117. H534 CFI

What will cause the nose of an aircraft to move in the direction of the turn before the bank starts in a turn entry?

A) Rudder being applied too late.

B) Rudder being applied too soon.

C) Failure to apply back elevator pressure.

118. H534 CFI

Which would likely result in a slipping turn?

A) Not holding bottom rudder in a turn.

B) Increasing the rate of turn without using rudder.

C) Increasing the rate of turn without increasing bank.

119. H538 CFI

Two distinct flight situations should be covered when teaching slow flight. These are the establishment and maintenance of

A) airspeeds appropriate for landing approaches, and flight at reduced airspeeds.

B) an airspeed which gives a stall warning indication, and an airspeed at which complete recovery can be made from stalls.

C) an airspeed at which the airplane is operating on the back side of the power curve, and an airspeed at which the elevator control can be held full-back with no further loss of control.

120. H545 CFI

(Refer to figure 48.) In flying the rectangular course, when would the aircraft be turned less than 90°?

A) Corners 1 and 4.

B) Corners 1 and 2.

C) Corners 2 and 4.

121. H545 CFI

(Refer to figure 49.) If you instruct a student to practice turns around a point using a bank that is not to exceed 45° at its steepest point, it would be best to start at which of the positions shown?

A) 3.

B) 7.

C) 3 or 7.

122. H545 CFI

(Refer to figure 49.) The angle of bank will be most nearly equal in which positions?

A) 3 and 7.

B) 1 and 5.

C) 4 and 6.

123. H545 CFI

(Refer to figure 50.) During S-turn practice, which positions require the steeper angle of bank?

A) 4 and 5.

B) 3 and 4.

C) 2 and 5.

124. H545 CFI

(Refer to figure 51.) While practicing S-turns, a consistently smaller half-circle is made on one side of the road than on the other, and this turn is not completed before crossing the road or reference line. This would most likely occur in turn

A) 1-2-3 because the bank is decreased too rapidly during the latter part of the turn.

B) 4-5-6 because the bank is increased too rapidly during the early part of the turn.

C) 4-5-6 because the bank is increased too slowly during the latter part of the turn.

125. H539 CFI

The objective of a cross-control stall demonstration is to

A) emphasize the hazard of an excessive slip during a landing approach.

B) teach the proper recovery technique should this type of stall occur during final approach.

C) show the effect of improper control technique and emphasize the importance of coordinated control when making turns.

126. H539 CFI

If inadequate right rudder is used during a climbing right turn, what may occur if the aircraft stalls?

A) A spin to the left.

B) A tendency to yaw to the right.

C) A tendency to roll to the right.

127. H527 CFI

When explaining the techniques used for making short- and soft-field takeoffs, it would be correct to state that

A) during soft-field takeoffs, lift-off should be made as soon as possible.

B) during soft-field takeoffs, lift-off should be made only when best angle-of-climb speed is attained.

C) during short-field takeoffs, lift-off should be attempted only after best rate-of-climb speed is attained.

128. L05 CFI

Hazardous attitudes occur to every pilot to some degree at some time. What are some of these hazardous attitudes?

A) Poor risk management and lack of stress management.

B) Antiauthority, impulsivity, macho, resignation, and invulnerability.

C) Poor situational awareness, snap judgments, and lack of a decision making process.

129. L05 CFI

In the aeronautical decision making (ADM) process, what is the first step in neutralizing a hazardous attitude?

A) Making a rational judgement.

B) Recognizing hazardous thoughts.

C) Recognizing the invulnerability of the situation.

130. L05 CFI

In order to gain a realistic perspective on one's attitude toward flying, a pilot should

A) understand the need to complete the flight.

B) take a Self-Assessment Hazardous Attitude Inventory Test.

C) obtain both realistic and thorough flight instruction during training.

131. L05 CFI

Hazardous attitudes which contribute to poor pilot judgment can be effectively counteracted by

A) an appropriate antidote.

B) early recognition of these hazardous attitudes.

C) taking meaningful steps to be more assertive with attitudes.

132. L05 CFI

The aeronautical decision making (ADM) process identifies several steps involved in good decision making. One of these steps is

A) developing a 'can do' attitude.

B) making a rational evaluation of the required actions.

C) identifying personal attitudes hazardous to safe flight.

133. L05 CFI

Many experienced pilots have fallen prey to dangerous tendencies or behavior problems at some time. Some of these dangerous tendencies or behavior patterns which must be identified and eliminated include

A) deficiencies in instrument skills and knowledge of aircraft systems or limitations.

B) peer pressure, scud running, loss of situational awareness, and operating with inadequate fuel reserves.

C) performance deficiencies due to stress from human factors such as fatigue, illness, or emotional problems.

134. L05 CFI

Examples of classic behavioral traps that experienced pilots may fall into are to

A) assume additional responsibilities and assert PIC authority.

B) promote situational awareness and then necessary changes in behavior.

C) complete a flight as planned, please passengers, meet schedules, and 'get the job done.'

135. L05 CFI

When should a flight instructor begin teaching aeronautical decision making (ADM) to a student?

A) Beginning with the first lesson.

B) As soon as the student is able to control the aircraft during basic maneuvers.

C) After the student has completed the initial solo flight but before conducting cross country flights.

136. L05 CFI

What are the four fundamental risk elements in the aeronautical decision making (ADM) process that comprise any given aviation situation?

A) Pilot, aircraft, environment, and mission.

B) Skill, stress, situational awareness, and aircraft.

C) Situational awareness, risk management, judgment, and skill.

137. L05 CFI

Risk management, as part of the aeronautical decision making (ADM) process, relies on which features to reduce the risks associated with each flight?

A) Application of stress management and risk element procedures.

B) Situational awareness, problem recognition, and good judgment.

C) The mental process of analyzing all information in a particular situation and making a timely decision on what action to take.

138. L05 CFI

The DECIDE process consists of six elements to help provide a pilot a logical way of approaching aeronautical decision making. These elements are to

A) detect, estimate, choose, identify, do, and evaluate.

B) determine, evaluate, choose, identify, do, and eliminate.

C) estimate, determine, choose, identify, detect, and evaluate.

139. J31 CFI

Which technique should a student be taught to scan for traffic to the right and left during straight-and-level flight?

A) Continuous sweeping of the windshield from right to left.

B) Concentrate on relative movement detected in the peripheral vision area.

C) Systematically focus on different segments of the sky for short intervals.

140. J31 CFI

If an individual has gone scuba diving which has not required a controlled ascent and will be flying to cabin pressure altitudes of 8,000 feet or less, the recommended waiting time is at least

A) 4 hours.

B) 12 hours.

C) 24 hours.

141. J31 CFI

Hyperventilation results in

A) a lack of carbon dioxide in the body.

B) breathing too rapidly causing a lack of oxygen.

C) a need to increase the flow of supplemental oxygen.

142. H992 CFI

What suggestion could you make to students who are experiencing motion sickness?

A) Recommend taking medication to prevent motion sickness.

B) Have the students lower their head, shut their eyes, and take deep breaths.

C) Tell the students to avoid unnecessary head movement and to keep their eyes on a point outside the aircraft.

143. H350 CFI

How can smoking affect a pilot?

A) Can decrease night vision by up to 50 percent.

B) Reduces the oxygen-carrying capability of the blood.

C) Creates additional carbon dioxide gases in the body which often leads to hyperventilation.

144. J31 CFI

What effect does haze have on the ability to see traffic or terrain features during flight?

A) Haze causes the eyes to focus at infinity.

B) The eyes tend to overwork in haze and do not detect relative movement easily.

C) All traffic or terrain features appear to be farther away than their actual distance.

145. H979 CFI

The angular difference between true north and magnetic north is

A) magnetic deviation.

B) magnetic variation.

C) compass acceleration error.

146. H983 CFI

How far will an aircraft travel in 2-1/2 minutes with a groundspeed of 98 knots?

A) 2.45 NM.

B) 3.35 NM.

C) 4.08 NM.

147. H983 CFI

On a cross-country flight, point A is crossed at 1500 hours and the plan is to reach point B at 1530 hours. Use the following information to determine the indicated airspeed required to reach point B on schedule.

Distance between A and B	70 NM
Forecast wind	310° at 15 kts
Pressure altitude	8,000 ft
Ambient temperature	-10 °C

True course 270°

The required indicated airspeed would be approximately

A) 126 knots.

B) 137 knots.

C) 152 knots.

148. H985 CFI

When converting from true course to magnetic heading, a pilot should

A) subtract easterly variation and right wind correction angle.

B) add westerly variation and subtract left wind correction angle.

C) subtract westerly variation and add right wind correction angle.

149. H983 CFI

(Refer to figure 40.) The line from point A to point B of the wind triangle represents

A) true heading and airspeed.

B) true course and groundspeed.

C) groundspeed and true heading.

150. H983 CFI

If a true heading of 135° results in a ground track of 130° and a true airspeed of 135 knots results in a groundspeed of 140 knots, the wind would be from

A) 019° and 12 knots.

B) 200° and 13 knots.

C) 246° and 13 knots.

151. H981 CFI

Which statement about longitude and latitude is true?

A) Lines of longitude are parallel to the Equator.

B) Lines of longitude cross the Equator at right angles.

C) The 0° line of latitude passes through Greenwich, England.

152. J37 CFI

(Refer to figure 46.) What does the figure 24 (area 6) indicate?

A) Maximum elevation figure for that quadrangle.

B) Minimum safe altitude when approaching San Francisco.

C) Height above ground of the tallest obstruction for that quadrangle.

153. J34 CFI

Information concerning parachute jumping sites may be found in the

A) NOTAM's.

B) Airport/Facility Directory.

C) Graphic Notices and Supplemental Data.

154. A150 CFI

If the certification category of an airplane is listed as 'utility,' it means the airplane is intended for which maneuvers?

A) Any type of acrobatic maneuver.

B) All nonacrobatic maneuvers plus limited acrobatics including spins.

C) Any maneuver incident to normal flying except acrobatics or spins.

155. A01 CFI

Regulations concerning the operational control of a flight refer to

A) the specific duties of any required crewmember.

B) exercising the privileges of pilot in command of an aircraft.

C) exercising authority over initiating, conducting, or terminating a flight.

156. A01 CFI

Which is a definition of the term 'crewmember'?

A) A person assigned to perform duty in an aircraft during flight time.

B) Any person assigned to duty in an aircraft during flight except a pilot or flight engineer.

C) Only a pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time.

157. A01 CFI

Which is the correct symbol for the minimum steady flight speed at which an airplane is controllable?

A) V_S.

B) V_{S1}.

C) V_{SO}.

158. A20 CFI

What minimum documentation is required to take an FAA knowledge test for any flight instructor rating?

A) Proper identification.

B) Proof of satisfactory completion of the appropriate ground training or home study course.

C) Authorization from an FAA inspector who has verified and endorsed the applicant's training record.

159. A20 CFI

What is the duration of a Student Pilot Certificate?

A) Indefinite.

B) 12 calendar months from the month in which it was issued.

C) 24 calendar months from the month in which it was issued.

160. A20 CFI

A flight instructor applicant must demonstrate spins in an airplane or glider when

A) the practical test for initial certification is being given.

B) being retested for deficiencies in instructional proficiency on stall awareness or spins demonstrated during an initial test.

C) the airplane or glider to be used for the practical test is certificated for spins and the applicant is being given an initial practical test.

161. A20 CFI

A person whose Flight Instructor Certificate has been suspended may not

A) give flight training, but may apply for a rating to be added to that certificate.

B) apply for any rating to be added to that certificate during the period of suspension.

C) apply for any Flight Instructor Certificate for a period of 1 year after the date of the suspension.

162. A20 CFI

An applicant has failed a knowledge test for the second time. With training and an endorsement from an authorized instructor, when may the applicant apply for a retest?

A) immediately.

B) After 5 days.

C) After 30 days.

163. B08 CFI

What is the correct departure procedure at a noncontrolled airport?

A) The FAA-approved departure procedure for that airport.

B) Make all left turns, except a 45° right turn on the first crosswind leg.

C) Departure in any direction consistent with safety, after crossing the airport boundary.

164. B08 CFI

What minimum pilot certificate will permit a pilot to enter all Class B airspace?

A) Private Pilot Certificate.

B) Commercial Pilot Certificate.

C) Student Pilot Certificate with an appropriate endorsement.

165. B08 CFI

To operate an aircraft over any congested area, a pilot should maintain an altitude of at least

A) 500 feet above the highest obstacle within a horizontal radius of 1,000 feet.

B) 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet.

C) 2,000 feet above the highest obstacle within a horizontal radius of 1,000 feet.

166. B08 CFI

When operating VFR in Class B airspace, what are the visibility and cloud clearance requirements?

A) 3 SM visibility and clear of clouds.

B) 3 SM visibility, 500 feet below, 1,000 feet above, and 2,000 feet horizontal distance from clouds.

C) 1 SM visibility, 500 feet below, 1,000 feet above, and 2,000 feet horizontal distance from clouds.

167. B08 CFI

Normally, the vertical limits of Class D airspace extend up to and including how many feet above the surface?

A) 2,500 feet.

B) 3,000 feet.

C) 4,000 feet.

168. B07 CFI

An aircraft's operating limitations may be found in the

A) FAA-approved aircraft flight manual.

B) owner's handbook published by the aircraft manufacturer.

C) aircraft flight manual, approved manual material, markings, and placards, or any combination thereof.

169. B08 CFI

Which preflight action is required for every flight?

A) Check weather reports and forecasts.

B) Determine runway length at airports of intended use.

C) Determine alternatives if the flight cannot be completed.

170. B07 CFI

If an in-flight emergency requires immediate action, a pilot in command may

A) deviate from FAR's to the extent required to meet that emergency.

B) not deviate from FAR's unless permission is obtained from air traffic control.

C) deviate from FAR's to the extent required to meet the emergency, but must submit a written report to the Administrator within 24 hours.

171. B11 CFI

What are the requirements, if any, to overfly Class C airspace?

A) None, provided the flight remains above the airspace ceiling.

B) Transponder with automatic altitude reporting capability is required above the airspace ceiling and upward to 10,000 feet MSL.

C) Two-way radio communications must be established with ATC and transponder must be operating at all times.

172. B12 CFI

What is the minimum altitude and flight visibility required for acrobatic flight?

A) 1,500 feet AGL and 5 miles.

B) 1,500 feet AGL and 3 miles.

C) 3,000 feet AGL and 3 miles.

173. B13 CFI

Assuring compliance with airworthiness directives is the responsibility of the

A) FAA certificated mechanic.

B) pilot in command of the aircraft.

C) owner or operator of the aircraft.

174. B13 CFI

If an ATC transponder installed in an aircraft has not been tested, inspected, and found to comply with regulations within a specified period, what is the limitation on its use?

A) Its use is not permitted.

B) It may be used anywhere except in Class A and B airspace.

C) It may be used for VFR flight but not for IFR flight.

175. B13 CFI

A new maintenance record being used for an aircraft engine rebuilt by the manufacturer must include the previous

A) operating hours of the engine.

B) annual inspections performed on the engine.

C) changes required by airworthiness directives.

176. B13 CFI

An aircraft's last annual inspection was performed on July 12, this year. The next annual inspection will be due no later than

A) July 13, next year.

B) July 31, next year.

C) 12 calendar months after the date shown on the Airworthiness Certificate.

177. B11 CFI

How long before the proposed operation should a request be submitted to the controlling ATC facility to operate in Class C airspace without the required altitude reporting transponder?

A) 1 hour.

B) 8 hours.

C) 24 hours.

178. B11 CFI

Regarding certificates and documents, no person may operate an aircraft unless it has within it an

A) Airworthiness Certificate and minimum equipment list (MEL).

B) Airworthiness Certificate, aircraft and engine logbooks, and owner's handbook.

C) Airworthiness Certificate, Registration Certificate, and approved flight manual.

179. B11 CFI

When an aircraft is being flown over water, under what circumstance must approved flotation gear be readily available to each occupant?

A) At night and beyond gliding distance from shore.

B) Anytime the aircraft is beyond power-off gliding distance from shore

C) When operating for hire beyond power-off gliding distance from shore.

180. B11 CFI

How long may an aircraft be operated after the emergency locator transmitter has been initially removed for maintenance?

A) 90 days.

B) 30 days.

C) 7 days.

181. G10 CFI

The NTSB defines a serious injury as any injury which

A) causes severe tendon damage.

B) results in a simple fracture of the nose.

C) involves first degree burns over 5 percent of the body.

182. G10 CFI

If an aircraft is involved in an accident which results in substantial damage to the aircraft, the nearest NTSB field office shall be notified

A) immediately.

B) within 7 days.

C) within 10 days.

183. I57 CFI

For a brief summary of the location and movement of fronts, pressure systems, and circulation patterns, the pilot should refer to

A) a Radar Summary Chart.

B) an Aviation Area Forecast.

C) a Significant Weather Prognostic Chart.

184. I56 CFI

Interpret the following radar weather report:

LIT 1133 AREA 4TRW 22/100 88/170 196/180 220/115 C2425 MT 310 AT 162/110

A) There are four cells with tops at 10,000 feet, 17,000 feet, and 11,500 feet.

B) The maximum top of the cells is located 162° and 110 NM from the station (LIT).

C) The visibility is 4 miles in thunderstorms and the intensity of thunderstorms remains unchanged.

185. I62 CFI

(Refer to figure 16.) What are the probable weather conditions in the area indicated by arrow D on the Stability Chart?

A) Stable air; predominately fair.

B) High relative humidity; showers and thunderstorms.

C) Marginally unstable air; moderate turbulence and possible thunderstorms.

186. I30 CFI

What feature is associated with the cumulus stage of a thunderstorm?

A) Frequent lightning.

B) Continuous updrafts.

C) Beginning of rain at the surface.

187. I30 CFI

A squall line is usually associated with a

A) stationary front.

B) fast-moving cold front.

C) fast-moving warm front.

188. I30 CFI

Consider the following statements regarding hail as an in-flight hazard and select those which are correct.

1. There is a correlation between the visual appearance of thunderstorms and the amount of hail within them.

2 Large hail is most commonly found in thunderstorms which have strong updrafts and large liquid water content.

3 Hail may be found at any level within a thunderstorm but not in the clear air outside of the storm cloud.

4 Hail is usually produced during the mature stage of the thunderstorm's lifespan.

5 Hailstones may be thrown upward and outward from a storm cloud for several miles.

The true statements are:

A) 2, 4, and 5.

B) 1, 2, and 3.

C) 1, 2, 4, and 5.

189. I27 CFI

What type weather is associated with an advancing warm front that has moist, unstable air?

A) Stratiform clouds, lightning, steady precipitation.

B) Cumuliform clouds, smooth air, steady precipitation.

C) Cumuliform clouds, turbulent air, showery-type precipitation.

190. I23 CFI

What causes wind?

A) Coriolis force.

B) Pressure differences.

C) The rotation of the Earth.

191. I25 CFI

If clouds form as a result of very stable, moist air being forced to ascend a mountain slope, the clouds will be

A) cirrus type with no vertical development or turbulence.

B) cumulonimbus with considerable vertical development and heavy rains.

C) stratus type with little vertical development and little or no turbulence.

192. I25 CFI

At approximately what altitude above the surface would you expect the base of cumuliform clouds if the surface air temperature is 77 °F and the dewpoint is 53 °F?

A) 9,600 feet AGL.

B) 8,000 feet AGL.

C) 5,500 feet AGL.

193. I31 CFI

One condition necessary for the formation of fog is

A) calm air.

B) visible moisture.

C) high relative humidity.

194. I31 CFI

With respect to advection fog, which statement is true?

A) It forms almost exclusively at night or near daybreak.

B) It forms when unstable air is cooled adiabatically.

C) It can appear suddenly during day or night, and it is more persistent than radiation fog.

195. I31 CFI

Which in-flight hazard is most commonly associated with warm fronts?

A) Ground fog.

B) Advection fog.

C) Precipitation-induced fog.

196. I31 CFI

Advection fog is formed as a result of

A) moist air moving over a colder surface.

B) the addition of moisture to a mass of cold air as it moves over a body of water.

C) the ground cooling adjacent air to the dewpoint temperature on clear, calm nights.

197. J25 CFI

Maximum downdrafts in a microburst encounter may be as strong as

A) 6,000 feet per minute.

B) 4,500 feet per minute.

C) 1,500 feet per minute.

198. J25 CFI

How long do the maximum intensity winds last in an individual microburst?

A) 2 to 4 minutes.

B) 5 to 10 minutes.

C) 15 minutes.

199. I24 CFI

Which precipitation type usually indicates freezing rain at higher altitudes?

A) Snow.

B) Hail.

C) Ice pellets.

200. I24 CFI

Streamers of precipitation trailing beneath clouds but evaporating before reaching the ground are known as

A) virga.

B) sublimation.

C) condensation trails.

201. I22 CFI

An altimeter indicates 1,850 feet MSL when set to 30.18. What is the approximate pressure altitude?

A) 1,590 feet.

B) 1,824 feet.

C) 2,110 feet.

202. I25 CFI

From which measurement of the atmosphere can stability be determined?

A) Ambient lapse rate.

B) Atmospheric pressure.

C) Difference between standard temperature and surface temperature.

203. I21 CFI

The most frequent type of ground- or surface-based temperature inversion is that produced by

A) terrestrial radiation on a clear, relatively still night.

B) warm air being lifted rapidly aloft in the vicinity of mountainous terrain.

C) the movement of colder air under warm air or the movement of warm air over cold air.

204. I21 CFI

Which is the primary driving force of weather on the Earth?

A) The Sun.

B) Coriolis.

C) Rotation of the Earth.

205. I20 CFI

In what part of the atmosphere does most weather occur?

A) Tropopause.

B) Troposphere.

C) Stratosphere.

206. H941 CFI

(Refer to figure 36.) Determine the condition of the airplane:

Pilot and copilot	375 lb
Passengers - aft position	245 lb
Baggage	65 lb
Fuel	70 gal

A) 185 pounds under allowable gross weight; CG is located within limits.

B) 162 pounds under allowable gross weight; CG is located within limits.

C) 162 pounds under allowable gross weight; CG is located aft of the aft limit.

207. H940 CFI

(Refer to figure 35.) If 50 pounds of weight is located at point X and 100 pounds at point Z, how much weight must be located at point Y to balance the plank?

A) 30 pounds.

B) 50 pounds.

C) 300 pounds.

208. H940 CFI

(Refer to figure 34.) How should the 500-pound weight be shifted to balance the plank on the fulcrum?

A) 1 inch to the left.

B) 1 inch to the right.

C) 4.5 inches to the right.

209. H940 CFI

(Refer to figure 33.) How should the 200-pound weight be shifted to balance the plank on the fulcrum?

A) 2.5 inches to the left.

B) 2 inches to the right.

C) 2 inches to the left.

210. O220 CFI

What effect, if any, does ambient temperature have on propane tank pressure?

A) It has no effect.

B) As temperature decreases, propane tank pressure decreases.

C) As temperature decreases, propane tank pressure increases.

211. H439 CFI

What causes false lift which sometimes occurs during a balloon launch?

A) Venturi effect of wind on the envelope.

B) Closing the maneuvering vent too rapidly.

C) Excessive temperature within the envelope.

212. O170 CFI

Which will improve the response time of a hot air balloon?

A) Increased weight.

B) Less-dense ambient air.

C) Increased fuel flow through burner.

213. O170 CFI

What is the weight of propane?

A) 4.2 pounds per gallon.

B) 6.0 pounds per gallon.

C) 7.5 pounds per gallon.

214. O170 CFI

The valve located on each tank that indicates the tank is filled to 80 percent capacity is the

A) main tank valve.

B) vapor-bleed valve.

C) fuel pressure valve.

215. O220 CFI

Propane is used in a balloon fuel system because it

A) is slow to vaporize.

B) provides natural pressure for fuel movement.

C) contains methanol for clean burning and improved performance.

216. O220 CFI

Why should methanol be added to propane fuel?

A) Helps detect leaks in the fuel system.

B) Helps prevent moisture from forming in the fuel system.

C) Increases pressure and boiling temperature for operations in colder climates.

217. O170 CFI

Prior to balloon flight on a cold, winter day, it may be necessary to preheat propane tanks because

A) ice may have formed in the lines to the burners.

B) the temperature of liquid propane controls burner pressure during combustion.

C) propane needs to be at a temperature which will allow it to go from a liquid to a gaseous state.

218. O220 CFI

Burner efficiency of a hot air balloon decreases approximately what percent for each 1,000 feet above MSL?

A) 4 percent.

B) 8 percent.

C) 15 percent.

219. O220 CFI

What is one procedure for relighting the burner while in flight?

A) Open the blast valve full open and light the pilot light.

B) Open another tank valve, open the blast valve, and light the main jet using reduced flow.

C) Close the tank valves, vent the fuel lines, reopen the tank valves, and light the pilot light.

220. O220 CFI

What is a potential hazard in a balloon during a climb that exceeds maximum rate?

A) Envelope may collapse.

B) Deflation port may be forced open.

C) Rapid flow of air may extinguish the burner and pilot light.

221. O220 CFI

In a balloon, best fuel economy in level flight can be accomplished by

A) evenly-spaced, short blasts of heat.

B) long blasts of heat, spaced as necessary.

C) noting the pyrometer and remaining at a constant temperature.

222. O220 CFI

If powerlines become a factor during a balloon flight, a pilot should know that

A) it is safer to contact the lines than chance ripping.

B) contact with powerlines creates no great hazard for a balloon.

C) it is better to chance ripping at 25 feet above the ground than contacting powerlines.

223. O220 CFI

The windspeed is such that it is necessary to deflate the envelope as rapidly as possible during a landing. When should the deflation port be opened?

A) Just prior to ground contact.

B) The instant the basket contacts the surface.

C) As the balloon skips off the surface the first time and all ballast has been discharged.

224. H414 CFI

Prior to a high-wind landing in a balloon, occupants should be briefed to

A) kneel on the floor, face aft, and hang on to the basket.

B) crouch in basket, face direction of landing, hold on in two places, and stay in basket.

C) crouch on the floor in the center of the basket and jump out as soon as initial ground contact is made.

225. H431 CFI

What should a pilot do if a small hole is seen in the fabric of a balloon during inflation?

A) Continue the inflation and make a mental note of the location of the hole for later repair.

B) Instruct a ground crew member to inspect the hole and, if under 5 inches in length, continue the inflation.

C) Consult the flight manual to determine if the hole is within acceptable damage limits established for the balloon being flown.

226. O220 CFI

All fuel tanks should be fired during preflight to determine

A) if there are any leaks in the tanks.

B) burner pressure and condition of the valves.

C) if the pilot light functions properly on each tank.

227. O220 CFI

How should a roundout from a moderate-rate ascent to level flight be made?

A) Vent at altitude and add heat upon settling back down to altitude.

B) Reduce the amount of heat gradually as the balloon approaches altitude.

C) Cool the envelope by venting and add heat just before arriving at the desired altitude.

228. A22 CFI

A student pilot may not operate a balloon in initial solo flight unless that pilot has

A) received a minimum of 5 hours' flight instruction in a balloon.

B) a valid Student Pilot Certificate and logbook endorsement by an authorized flight instructor.

C) made at least 10 balloon flights under the supervision of an authorized flight instructor.

229. I30 CFI

Select the true statement pertaining to the life cycle of a thunderstorm.

A) The initial stage of a thunderstorm is always indicated by the development of a nimbus cloud.

B) The beginning of rain at the Earth's surface indicates the mature stage of the thunderstorm.

C) The beginning of rain at the Earth's surface indicates the dissipating stage of the thunderstorm.

230. H303 CFI

Maximum gliding distance of an aircraft is obtained when

A) parasite drag is the least.

B) induced drag and parasite drag are equal.

C) induced drag equals the coefficient of lift.

231. H762 CFI

If the gyroplane's CG is below the propeller thrust line, which direction will the application of power cause the nose to move?

A) The nose will pitch up.

B) The nose will pitch down.

C) The nose will not move.

232. H1013 CFI

When a slight upward or negative flap deflection is used, the result is

A) increased drag.

B) decreased drag.

C) decreased lift.

233. H703 CFI

Rotor blade flapping action is

A) an undesirable reaction to changes in airspeed and blade angle of attack.

B) an aerodynamic reaction to high speed flight and cannot be controlled by the pilot.

C) a design feature permitting continual changes in the rotor blade angle of attack, compensating for dissymmetry of lift.

234. H703 CFI

The combination of lift and centrifugal force produces

A) coning.

B) flapping.

C) Coriolis effect.

235. H1017 CFI

The best lift/drag ratio of a glider occurs when parasite drag is

A) equal to total drag.

B) equal to induced drag.

C) less than induced drag.

236. H1116 CFI

(Refer to figure 38.) A glider is flying from A to C. With a normal L/D ratio of 20:1 and a constant airspeed of 40 MPH, what minimum altitude AGL is needed at B to arrive over C at 800 feet AGL with no sinking air?

A) 3,520 feet.

B) 4,320 feet.

C) 6,080 feet.

237. H1083 CFI

When making an off-field landing, it is recommended that the landing be accomplished

A) in pastures which are seldom cultivated.

B) uphill, if possible, regardless of the wind direction.

C) in cultivated fields where the crops have not yet been harvested.

238. H1051 CFI

GIVEN:

Maximum auto winch tow speed	69 MPH
Surface wind	5 MPH
Wind gradient	5 MPH

What should the auto winch speed be when a glider reaches an altitude of 200 feet?

A) 44 MPH.

B) 49 MPH.

C) 59 MPH.

239. H1037 CFI

What would be the approximate tensile strength of a rope with a 1,000 pound tensile strength if a knot develops in it?

A) 500 pounds.

B) 800 pounds.

C) 1,000 pounds.

240. H1043 CFI

What could result if a glider pilot releases while in the low-tow position during an aerotow?

A) Nose of the glider would tend to pitch up after release.

B) Tow ring may strike and damage the glider after release.

C) Glider may be forced into the towplane's wake turbulence.

241. H1047 CFI

During a ground launch, how is the airspeed of a glider increased?

A) Raise the nose.

B) Lower the nose.

C) Increase speed of vehicle or winch.

242. H1051 CFI

During an autolaunch, the pitch angle of the glider should not exceed

A) 10° at 50 feet, 20° at 100 feet, and 45° at 200 feet.

B) 15° at 50 feet, 20° at 100 feet, and 40° at 200 feet.

C) 15° at 50 feet, 30° at 100 feet, and 45° at 200 feet.

243. H1072 CFI

Unless adequate speed control is maintained during the turn to base and the final approach for a landing into the wind, which would most likely occur if a steep wind gradient existed?

A) The desired landing spot would be undershot or the glider would stall.

B) The airspeed on final approach would increase, causing the glider to overshoot the desired landing spot.

C) The wingtip on the outside of the turn would stall before the wingtip on the inside of the turn.

244. H1072 CFI

If swirling dust, leaves, or debris indicate a strong thermal on the final approach to a landing, it is recommended that the glider pilot

A) open the spoilers and reduce the airspeed.

B) close the spoilers and increase the airspeed.

C) open the spoilers and maintain a constant airspeed.

245. H1110 CFI

With regard to two or more gliders flying in the same thermal, which statement is true?

A) All turns should be to the right.

B) Turns should be in the same direction as the highest glider.

C) Turns should be made in the same direction as the first glider to enter the thermal.

246. H1122 CFI

What is the suggested speed to fly when passing through lift with no intention to work the lift?

A) Best glide speed.

B) Minimum sink speed.

C) Best lift/drag speed.

247. H1031 CFI

When flying into a strong headwind on a long glide back to the airport, the recommended speed to use is the

A) best glide speed.

B) minimum sink speed.

C) best lift/drag speed plus half the estimated windspeed at the glider's flight altitude.

248. H1030 CFI

The reason for retaining water ballast while thermals are strong and dumping the water when thermals weaken is to

A) decrease forward speed.

B) increase forward speed.

C) decrease the rate of descent.

249. H1036 CFI

Which is true about the effect on a glider's performance by the addition of ballast or weight?

A) The glide ratio at a given airspeed will increase.

B) A higher airspeed is required to obtain the same glide ratio as when lightly loaded.

C) The heavier the glider is loaded, the less the glide ratio will be at all airspeeds.

250. P04 CFI

Below pressure height, each 5 °F of positive superheat amounts to approximately

A) 1 percent of net lift.

B) 1 percent of static lift.

C) 2 percent of gross lift.

251. P04 CFI

The difference between the weight of the air being displaced and the weight of the lifting gas is

A) gross lift.

B) useful lift.

C) design lift.

252. P11 CFI

What action is required to dynamically trim an airship that is in even static trim and equilibrium during a weigh-off?

A) Transfer air aft.

B) Increase airspeed.

C) Transfer air forward.

253. P02 CFI

An airship with a small fineness ratio has a hull form that will introduce

A) greater nose pressures.

B) lower pressure variations from nose to tail.

C) more frictional drag due to the plump shape of the hull.

254. P01 CFI

An airship will float in the air when buoyant force

A) equals horizontal equilibrium existing between propeller thrust and airship drag.

B) equals the difference between airship weight and the weight of the volume of air being displaced.

C) is less than the difference between airship weight and the weight of the air volume being displaced.

255. P01 CFI

During flight in an airship, vertical equilibrium is established when

A) pressure height is reached.

B) buoyancy equals airship weight.

C) buoyancy is greater than airship weight.

256. P11 CFI

The purpose of a ground weigh-off for an airship is to determine

A) available lift.

B) static and/or trim condition.

C) trim angle necessary to make an up-ship takeoff.

257. P13 CFI

Critical factors affecting flight characteristics and controllability of an airship are

A) lift and drag.

B) static and dynamic trim.

C) temperature and atmospheric density.

258. P01 CFI

How does an airship pilot know when pressure height has been reached?

A) Liquid in the gas and air manometers will rise above normal levels.

B) Liquid in the gas manometer will rise and liquid in the air manometer(s) will fall below normal levels.

C) Liquid in the gas manometer will fall and liquid in the air manometer(s) will rise above normal levels.

259. P11 CFI

Dampers should normally be kept closed during a climb to altitude because any air blown into the system would

A) decrease the volume of gas within the envelope.

B) increase the amount of air to be valved, resulting in a slower rate of ascent.

C) increase the amount of gas to be valved, preventing the airship from ascending too fast.

260. P11 CFI

What is one indication of a serious envelope rip in an airship?

A) Drop in air pressure.

B) Increase in gas pressure.

C) Difficulty in controlling altitude.

261. P03 CFI

If all engine power is lost during flight, an airship should be

A) brought to a condition of equilibrium as soon as possible and free-ballooned.

B) trimmed nose-heavy to use the airship's negative dynamic lift to fly the airship down to the landing site.

C) trimmed nose-light to use the airship's positive dynamic lift to control the angle and rate of descent to the landing site.

262. O220 CFI

What action is most appropriate when an envelope over-temperature condition occurs?

A) Land as soon as practicable.

B) Descend and allow envelope to cool before landing.

C) Throw all unnecessary equipment overboard in order to lighten the load.

263. P11 CFI

When operating an airship with the ballonet air valves in the automatic forward position, the aft valve lock should not be engaged with either aft damper open because

A) ballonet over-inflation and rupture could occur.

B) the airship will enter an excessive nose-high attitude.

C) envelope pressure will increase, causing possible damage to the air lines.

264. P11 CFI

Which takeoff procedure is considered to be most hazardous for an airship?

A) Not using an up-ship takeoff when the airship is more than 200 pounds heavy.

B) Maintaining 50 percent of the maximum permissible positive angle of inclination.

C) Maintaining a negative angle of inclination during a wheel takeoff after elevator response is adequate for controllability.

265. P11 CFI

Which action is necessary in order to perform a normal descent in an airship?

A) Valve gas from the envelope.

B) Take air into the aft ballonet.

C) Valve air from the forward ballonet.

266. A20 CFI

What action may be taken against a person whom the Administrator finds has cheated on a knowledge test?

A) Any certificate or rating held by the person may be suspended or revoked.

B) That person will be required to wait 24 months before taking another knowledge test.

C) That person may be required to wait a maximum of 6 months before applying for any other certificate or rating.

267. H01 CFI

During flight, advancing thrust will

A) increase airspeed.

B) cause the aircraft to climb.

C) cause the aircraft to increase airspeed and climb.

268. H02 CFI

The torque effect of an engine that rotates clockwise in a powered parachute is counteracted by

A) increasing the length of the right and decreasing the length of the left riser cables.

B) decreasing the length of the left riser cables.

C) decreasing the length of right riser cables.

269. H302 CFI

The tendency of an aircraft to develop forces which restore it to its original condition, when disturbed from a condition of steady flight, is known as

A) stability.

B) controllability.
C) maneuverability.

270. H01 CFI
The steering bars
A) are used during taxi operations with the parachute stowed.
B) control the outboard trailing edge of the parachute.
C) control the main landing gear brakes.

271. H05 CFI
The formation of ice in a carburetors throat is indicated by
A) rough engine operation, followed by a decrease in oil pressure.
B) a rapid increase in RPM, followed by rough engine operation.
C) a drop in RPM, followed by rough engine operation.

272. H01 CFI
The purpose of the fuel tank vent system is to
A) remove dangerous vapors from the aircraft and prevent an explosion.
B) allow air to enter the tank as fuel is consumed.
C) ensure a proper fuel to air ratio.

273. H05 CFI
A standby source of fuel to an engine in a powered parachute is typically
A) from an electrically powered pump.
B) through gravity feed.
C) from a pressurized fuel tank.

274. H01 CFI
The fuel vents on many powered parachutes and weight shift control aircraft are located
A) in the fuel cap.
B) adjacent to the crankcase breather.
C) in the fuel tank pressure relief valve.

275. H04 CFI
Combusted fuel is expelled from a 2-cycle engine through an
A) exhaust valve and exhaust port.
B) exhaust valve.
C) exhaust port.

276. H05 CFI

Fuel enters a two-cycle engine through an

A) intake port and intake valve.

B) intake port and reed valve.

C) intake valve and reed valve.

277. H05 CFI

The first indication of carburetor ice in an aircraft with a four-cycle engine and fixed-pitch propeller is

A) an increase in RPM.

B) a decrease in RPM.

C) a decrease in oil pressure.

278. H05 CFI

Air cooled engines dissipate heat

A) through cooling fins on the cylinder and head.

B) by air flowing through the radiator fins.

C) through the cylinder head temperature probe.

279. H05 CFI

Coolant in a liquid cooled engine is normally circulated by

A) capillary attraction.

B) an electric pump.

C) an engine driven pump.

280. H04 CFI

In order to improve engine efficiency, two-cycle engine exhaust systems are tuned to

A) close the exhast valve to stop the fuel mixture from exiting the cylinder.

B) stop the fuel mixture from exiting the cylinder before cumbustion.

C) use a reed valve to stop the fuel mixture from exiting the cylinder.

281. H04 CFI

2-cycle engine thrust and fuel efficiency can be greatly compromised when

A) exhaust systems are installed that are not specifically tuned for an engine.

B) carbon deposits build up on exhaust valves.

C) intake valve lifters fail to pressurize and provide adequate fuel to the combustion chamber.

282. H06 CFI

The purpose of a kill switch is to

A) shut off the fuel to the carburetor.

B) ground the lead wire to the ignition coil shuting down the powerplant.

C) ground the battery eliminating current for the ignition system.

283. H07 CFI

A typical two-cycle engine ignition coil is powered by

A) a battery.

B) a battery or an alternator.

C) a magneto.

284. H05 CFI

Many 4-cycle engines utilize what type of lubrication system?

A) Forced.

B) Gravity.

C) Fuel/oil mixture.

285. H05 CFI

Adding more oil to the fuel than specified by the manufacturer of a 2-cycle engine will result in

A) increased engine performance.

B) increased carbon buildup and engine fouling.

C) increased engine lubrication and optimal performance.

286. H05 CFI

Pilots should refrain from revving an engine with a reduction drive because

A) the crankshaft counterbalances may be dislodged and cause extreme engine vibration.

B) the propeller blade tips may exceed their RPM limits.

C) the torque exerted on the gears during excessive acceleration and deceleration can cause the gear box to self-destruct.

287. H01 CFI

The center of gravity tube is

A) lengthened for heavier pilots.

B) shortened for lighter pilots.

C) lenghtened for lighter pilots.

288. H01 CFI

The fan guard surrounds the propeller and

A) increases aerodynamic efficiency.

B) reduces "P" factor.

C) protects the parachute suspension lines from damage.

289. H02 CFI

Cross ports in the parachute ribs aid in

A) weight reduction of the canopy.

B) the pressurization of the neighboring cells.

C) drying of the canopy.

290. H02 CFI

Splicing severed suspension lines

A) is permissible if using the same size material as the original line.

B) is a very dangerous practice.

C) is an acceptable field repair

291. H02 CFI

Tying a severed suspension line

A) will change the shape of the wing and is not permissible.

B) is permissible if it is shortened no more than six inches.

C) is an acceptable field repair.

292. H02 CFI

What gives your powered parachute wing/canopy its airfoil shape?

A) The risers because, by decreasing the length of the right riser you will get the precise airfoil shape.

B) The suspension lines as they are precisely measured and fitted to a specific location.

C) The air as it enters the cell openings on the leading edge of the airfoil.

293. H02 CFI

Degradation of the parachute`s protective polyurethane coating results in

A) increased takeoff distances, decreased maximum gross weight, and increased fuel consumption.

B) reduced takeoff distances, increased maximum gross weight, and reduced fuel consumption.

C) increased takeoff distances, increased maximum gross weight, and increased fuel consumption.

294. H01 CFI

During preflight, the fuel vent system should always be checked

A) to ensure the vent is closed.

B) to ensure the vent is open.

C) to ensure the vent system pressure is in the green range.

295. H01 CFI

Flaring allows the pilot to touchdown at a

A) higher rate of speed and a slower rate of descent.

B) lower rate of speed and a higher rate of descent.

C) lower rate of speed and a lower rate of descent.

296. H22 CFI

As a weight shift aircraft wing approaches a stall, the wing tips

A) decrease the wings angle of attack.

B) act in much the same way as ailerons on a three-axis aircraft.

C) increase the wings angle of attack.

297. H22 CFI

During a wing stall, the wing tips of a weight shift aircraft are

A) ineffective for stall recovery.

B) effective for stall recovery.

C) effective only when combined with maximum engine output.

298. H22 CFI

The crosstube is positioned by

A) a quick release pin.

B) self-locking bolts.

C) restraining cables attached to the rear of the keel.

299. H22 CFI

On some trikes, the hang point is part of

A) a variable trim arrangement that allows the pilot to adjust the aircraft center of gravity during flight to obtain the most favorable aircraft performance.

B) an adjustable trim arrangement that allows the pilot to adjust the aircraft center of gravity during flight to obtain the most favorable aircraft performance.

C) an adjustable trim arrangement that allows the center of gravity to shift fore and aft along the wing`s keel.

300. H22 CFI

The keel pocket`s purpose is to

A) act as a longitundinal stabilizer, keeping the wing from wandering left and right.

B) act as a roll stabilizer, keeping the wing from wandering left and right.

C) act as a yaw stabilizer, keeping the wing from wandering left and right.

301. H22 CFI

How does the wing design feature "washout" affect the production of lift?

A) The wing tips continue producing lift when the main body of the wing is not producing lift.

B) The main body of the wing continues to produce lift when the wing tips are not producing lift.

C) The center of lift moves from the trailing edge of the wing, to the leading edge of the wing, as the wing begins to stall.

302. H22 CFI

The wing of a weight shift aircraft twists so that the angle of attack

A) from the center of the wing to the wing tip is variable and can be adjusted by the pilot in flight to optimize performance.

B) changes from a a low angle of attack at the center of the wing, to a high angle of attack at the tips.

C) changes from a high angle of attack at the center of the wing, to a low angle of attack at the tips.

303. H749 CFI

Ground resonance is most likely to occur when

A) there is a sudden change in velocity of the plane of rotation.

B) a series of shocks cause the rotor system to become out of balance.

C) initial ground contact is made with a combination of high gross weight and low RPM.

304. H783 CFI

In preparing to take off in a gyroplane, your student engages the clutch and prerotates the rotor to takeoff RPM. If brakes are released prior to disengaging the clutch, the gyroplane will turn

A) left because of rotor torque.

B) right because of rotor torque.

C) right because of engine propeller torque.

305. H703 CFI

During forward cruising flight at constant airspeed and altitude, the individual rotor blades, when compared to each other, are operating at

A) unequal airspeed, equal angles of attack, and unequal lift moment.

B) unequal airspeed, unequal angles of attack, and equal lift moment.

C) constant airspeed, unequal angles of attack, and unequal lift moment.

306. H767 CFI

Removing the rotor force on a gyroplane can lead to
A) a power push over.
B) increased rotor RPM.
C) pilot induced oscillation.

307. H762 CFI
Rotor blade rotation during powered flight in a gyroplane is produced by the
A) horizontal component of rotor lift.
B) interaction between engine propeller thrust and rotor blade drag.
C) transfer of engine power through the clutch to the rotor shaft.

308. H702 CFI
How does a negative G maneuver affect a gyroplane's rotor RPM?
A) Increases rapidly.
B) Remains the same.
C) Decreases rapidly.

309. H783 CFI
During the transition from prerotation to flight, all rotor blades change pitch
A) simultaneously to the same angle of incidence.
B) simultaneously but to different angles of incidence.
C) to the same degree at the same point in the cycle of rotation.

310. H766 CFI
When is rotor downwash most prevalent in certain gyroplanes?
A) During all surface movement.
B) Immediately prior to touchdown after a steep approach.
C) During a vertical takeoff when rotor blades are in a propeller state.

311. H766 CFI
Rotor torque is a concern in gyroplanes only during
A) prerotation or clutch engagement.
B) maneuvers requiring high rotor RPM.
C) maximum performance climbs and go-arounds requiring higher engine RPM.

312. H767 CFI
Which may lead to a power push-over in a gyroplane?
A) Low speed.

B) Rotor force is removed.

C) Decreasing power too quickly.

313. H767 CFI

Which maneuver would cause the unloading the rotor system,and result in a possible power pushover?

A) Just prior to landing

B) During a steep descent.

C) After a pushover from a steep climb.

314. H302 CFI

A gyroplane will have the greatest tendency to roll during

A) horizontal flight at high speed.

B) climbing flight in which forward airspeed decreases.

C) descending flight in which forward airspeed decreases.

315. H763 CFI

Longitudinal and lateral control of a gyroplane in flight are affected by

A) antitorque pedals.

B) tilting the plane of rotation of the rotor in the direction that control is desired.

C) adjusting the pitch of the rotor blades to the angle and direction that control is desired.

316. H762 CFI

What should help prevent aircraft induced oscillation on a gyroplane?

A) Adding a horizontal stabilizer.

B) Increasing cyclic control sensitivity.

C) Lowering the center of gravity below the thrust line.

317. H754 CFI

A high-frequency vibration in flight would most likely indicate potential trouble with

A) the balance of the main rotor blades.

B) a piston engine malfunction.

C) worn parts in the main rotor system.

318. H709 CFI

A one-per-revolution vibration in a gyroplane indicates which condition?

A) Rotor blades out of balance.

B) One rotor blade out of track.

C) Possible onset of retreating blade stall.

319. H766 CFI

Low speed blade flap on a gyroplane is a result of

A) taxiing too fast.

B) rotor blade pitch set too high.

C) the rotor blades being too heavy.

320. H766 CFI

Which is true concerning taxi procedures in a gyroplane?

A) Keeping the rotor system level creates less lift and more stability.

B) Cyclic stick should be positioned slightly aft of neutral when taxiing.

C) Rotor blades should not be turning when taxiing over a rough surface.

321. H767 CFI

Which pilot action will help reduce pilot induced oscillation in a gyroplane?

A) Avoid flight at high speeds.

B) Increase power if nose pitches down.

C) Prior to a climb, increase pitch attitude before increasing power.

322. H766 CFI

When landing a gyroplane in crosswind conditions, proper technique requires that the

A) longitudinal axis be parallel to the runway.

B) direction of motion and heading coincide with runway direction.

C) lateral axis of the gyroplane be parallel to the gyroplane's direction of motion.

323. H766 CFI

In order to maintain level flight (laterally) as airspeed increases on climbout after takeoff in a gyroplane, the pilot will have to increase

A) rudder pressure to the left.

B) cyclic pressure to the right.

C) rudder and cyclic pressure to the left.

324. H748 CFI

What are the major indications of an incipient retreating blade stall situation, in order of occurrence?

A) Low-frequency vibration, pitchup of the nose, and a tendency for the aircraft to roll.

B) High-frequency vibration, pitchdown of the nose, and a tendency for the aircraft to roll.

C) Slow pitchup of the nose, high-frequency vibration, and a tendency for the aircraft to roll.

325. H729 CFI

During a takeoff in a crosswind, which describes proper control technique?

A) Pedals control both heading and direction of movement.

B) Heading is maintained with cyclic; direction of movement (groundpath or track) is maintained with pedals.

C) Heading is maintained with pedals; direction of movement (groundpath or track) is maintained with cyclic.

326. H226 CFI

Which statement is true about instructors' critiques?

A) Instructors should rely on their personality to make a critique more acceptable.

B) A comprehensive critique should emphasize positive aspects of student performance.

C) Before students willingly accept their instructor's critique, they must first accept the instructor.

327. H227 CFI

A written test is said to be comprehensive when it

A) includes all levels of difficulty.

B) samples liberally whatever is being measured.

C) measures knowledge of the same topic in many different ways.

328. H227 CFI

Which is the main disadvantage of supply-type test items?

A) They cannot be graded with uniformity.

B) They are readily answered by guessing.

C) They are easily adapted to statistical analysis.

329. H227 CFI

A written test has validity when it

A) yields consistent results.

B) samples liberally whatever is being measured.

C) measures what it is supposed to measure.

330. H227 CFI

Which is one of the major difficulties encountered in the construction of multiple-choice test items?

A) Adapting the items to statistical item analysis.

B) Keeping all responses approximately equal in length.

C) Inventing distractors which will be attractive to students lacking knowledge or understanding.

331. H227 CFI

In a written test, which type of selection-type test items reduces the probability of guessing correct responses?

A) Essay.

B) Matching.

C) Multiple-choice.

332. H226 CFI

When an instructor critiques a student, it should always be

A) done in private.

B) subjective rather than objective.

C) conducted immediately after the student's performance.

333. H227 CFI

Practical tests for pilot certification are

A) norm-referenced.

B) criterion-referenced.

C) evaluation-referenced.

334. H227 CFI

The objective of the Practical Test Standards (PTS) is to ensure the certification of pilots at a high level of performance and proficiency, consistent with

A) safety.

B) the time available.

C) their abilities.

335. H227 CFI

During oral quizzing in a given lesson, effective questions should

A) be brief and concise.

B) provide answers that can be expressed in a variety of ways.

C) divert the student's thoughts to subjects covered in previous lessons.

336. H227 CFI

To be effective in oral quizzing during the conduct of a lesson, a question should

A) be of suitable difficulty for that stage of training.

B) include a combination of where, how, and why.

C) divert the student's thoughts to subjects covered in other lessons.

337. H217 CFI

Which method of presentation is desirable for teaching a skill such as ground school lesson on the flight computer?

A) Lecture/application.

B) Presentation/practice.

C) Demonstration/performance.

338. H213 CFI

To communicate effectively, instructors must

A) recognize the level of comprehension.

B) provide an atmosphere which encourages questioning.

C) reveal a positive attitude while delivering their message.

339. H214 CFI

By using abstractions in the communication process, the communicator will

A) bring forth specific items of experience in the minds of the receivers.

B) be using words which refer to objects or ideas that human beings can experience directly.

C) not evoke in the listener's or reader's mind the specific items of experience the communicator intends.

340. H213 CFI

The effectiveness of communication between instructor and student is measured by the

A) degree of dynamic, interrelated elements.

B) similarity between the idea transmitted and the idea received.

C) relationship between communicative and dynamic elements.

341. H214 CFI

Probably the greatest single barrier to effective communication in the teaching process is a lack of

A) respect for the instructor.

B) personality harmony between instructor and student.

C) a common experience level between instructor and student.

342. H215 CFI

When has instruction taken place?

A) When all the required material has been presented.

B) When a procedure has been explained, and the desired student response has occurred.

C) When the student hears what is presented.

343. H211 CFI

When a student uses excuses to justify inadequate performance, it is an indication of the defense mechanism known as

A) flight.

B) aggression.

C) rationalization.

344. H210 CFI

Which of the student's human needs offer the greatest challenge to an instructor?

A) Social.

B) Egoistic.

C) Self-fulfillment.

345. H210 CFI

Before a student can concentrate on learning, which human needs must be satisfied?

A) Safety.

B) Physical.

C) Security.

346. H212 CFI

When under stress, normal individuals usually react

A) by showing excellent morale followed by deep depression.

B) by responding rapidly and exactly, often automatically, within the limits of their experience and training.

C) inappropriately such as extreme over-cooperation, painstaking self-control, and inappropriate laughing or singing.

347. H212 CFI

The instructor can counteract anxiety in a student by

A) treating the student's fears as a normal reaction.

B) discontinuing instruction in tasks that cause anxiety.

C) allowing the student to decide when he/she is ready for a new maneuver to be introduced.

348. H211 CFI

When students display the defense mechanism called aggression, they

A) become visibly angry, upset, and childish.

B) may refuse to participate in class activities.

C) attempt to justify actions by asking numerous questions.

349. H211 CFI

When a student asks irrelevant questions or refuses to participate in class activities, it usually is an indication of the defense mechanism known as

A) flight.

B) aggression.

C) resignation.

350. H228 CFI

Which is a true statement concerning the use of instructional aids?

A) Instructional aids ensure getting and holding the student's attention.

B) Instructional aids should be designed to cover the key points in a lesson.

C) Instructional aids should not be used simply to cover a subject in less time.

351. H233 CFI

Which statement is true regarding positive or negative approaches in aviation instructional techniques?

A) A student with normal abilities should not be affected by an instructor who emphasizes emergency procedures early in training.

B) A positive approach, to be effective, will point out the pleasurable features of aviation before the unpleasant possibilities are discussed.

C) The introduction of emergency procedures before the student is acquainted with normal operations is likely to be neither discouraging nor affect learning.

352. H233 CFI

Faulty performance due to student overconfidence should be corrected by

A) increasing the standard of performance for each lesson.

B) praising the student only when the performance is perfect.

C) providing strong, negative evaluation at the end of each lesson.

353. H233 CFI

An instructor can most effectively maintain a high level of student motivation by

A) making each lesson a pleasurable experience.

B) relaxing the standards of performance required during the early phase of training.

C) continually challenging the student to meet the highest objectives of training that can be established.

354. H235 CFI

True performance as a professional is based on study and

A) attitude.

B) perseverance.

C) research.

355. H235 CFI

Which statement is true regarding true professionalism as an instructor?

A) Anything less than sincere performance destroys the effectiveness of the professional instructor.

B) To achieve professionalism, actions and decisions must be limited to standard patterns and practices.

C) A single definition of professionalism would encompass all of the qualifications and considerations which must be present.

356. H234 CFI

In evaluating student demonstrations of piloting ability, it is important for the flight instructor to

A) remain silent and observe.

B) keep the student informed of progress.

C) explain errors in performance immediately.

357. H234 CFI

Before endorsing a student for solo flight, the instructor should require the student to demonstrate consistent ability to perform

A) slow flight, stalls, emergency landings, takeoffs and landings, and go-arounds.

B) all of the fundamental maneuvers.

C) all maneuvers specified in the Student Pilot Guide.

358. H234 CFI

Evaluation of demonstrated ability during flight instruction must be based upon

A) established standards of performance, suitably modified to apply to the student's experience.

B) the progress of the student, considering the time and experience attained since beginning training.

C) the instructor's background and experience relating to student pilots at this stage of training.

359. H204 CFI

During the flight portion of a practical test, the examiner simulates complete loss of engine power by closing the throttle and announcing 'simulated engine failure'. What level of learning is being tested?

A) Application.

B) Correlation.

C) Understanding.

360. H203 CFI

Insights, as applied to learning, involve a person's

A) association of learning with change.

B) grouping of associated perceptions into meaningful wholes.

C) ability to recognize the reason for learning a procedure.

361. H203 CFI

Individuals make more progress learning if they have a clear objective. This is one feature of the principle of

A) primacy.

B) readiness.

C) willingness.

362. H203 CFI

Which statement is true concerning motivations?

A) Motivations must be tangible to be effective.

B) Motivations may be very subtle and difficult to identify.

C) Negative motivations often are as effective as positive motivations.

363. H206 CFI

Where is information for future use stored?

A) Sensory register.

B) Short-term memory.

C) Long-term memory.

364. H202 CFI

The learning process may include some elements such as verbal, conceptual, and

A) habitual.

B) experiential.

C) problem solving.

365. H203 CFI

Which is generally the more effective way for an instructor to properly motivate students?

A) Maintain pleasant personal relationships with students.

B) Provide positive motivations by the promise or achievement of rewards.

C) Reinforce their self-confidence by requiring no tasks beyond their ability to perform.

366. H201 CFI

A change in behavior as a result of experience can be defined as

A) learning.

B) knowledge.

C) understanding.

367. H206 CFI

Responses that produce a pleasurable return are called

A) reward.

B) praise.

C) positive feedback.

368. H205 CFI

A learning plateau may be defined as the

A) point in the learning curve at which skill proficiency retrogresses.

B) normal leveling-off of an individual's learning rate.

C) achievement of the highest possible level of competence for a particular individual.

369. H206 CFI

According to one theory, some forgetting is due to the practice of submerging an unpleasant experience into the subconscious. This is called

A) blanking.

B) immersion.

C) repression.

370. H206 CFI

Which memory system processes input from the environment?

A) Working.

B) Long-term.

C) Sensory register.

371. H205 CFI

The best way to prepare a student to perform a task is to

A) explain the purpose of the task.

B) provide a clear, step-by-step example.

C) give the student an outline of the task.

372. H207 CFI

Which transfer of learning occurs when the performance of a maneuver interferes with the learning of another maneuver?

A) Adverse.

B) Positive.

C) Negative.

373. H203 CFI

Which factor affecting perception has a great influence on the total perceptual process?

A) Self-concept.

B) Goals and values.

C) Time and opportunity.

374. H204 CFI

What level of knowledge is being tested if asked, 'What is the maneuvering speed of the aircraft listed in the owner's manual?'

A) Rote.

B) Application.

C) Understanding.

375. H203 CFI

A basic need that affects all of a person's perceptions is the need to

A) maintain and enhance the organized self.

B) accomplish a higher level of satisfaction.

C) avoid areas that pose a threat to success.

376. H203 CFI

What is the basis of all learning?

A) Perception.

B) Motivation.

C) Positive self-concept.

377. H203 CFI

Which principle of learning implies that a student will learn more from the real thing than from a substitute?

A) Principle of effect.

B) Principle of primacy.

C) Principle of intensity.

378. H203 CFI

An instructor may foster the development of insights by

A) helping the student acquire and maintain a favorable self-concept.
B) pointing out the attractive features of the activity to be learned.
C) keeping the rate of learning consistent so that it is predictable.

379. H203 CFI
The mental grouping of affiliated perceptions is called
A) insights.
B) association.
C) conceptualization.

380. H204 CFI
Which domain of learning deals with knowledge?
A) Cognitive.
B) Affective.
C) Psychomotor.

381. H207 CFI
To ensure proper habits and correct techniques during training, an instructor should
A) use the building block technique of instruction.
B) repeat subject matter the student has already learned.
C) introduce challenging material to continually motivate the student.

382. H203 CFI
The principle that is based on the emotional reaction of the learner is the principle of
A) effect.
B) primacy.
C) intensity.

383. H247 CFI
Each lesson of a training syllabus includes
A) attention, motivation, and overview.
B) introduction, development, and conclusion.
C) objective, content, and completion standards.

384. H248 CFI
Which statement is true regarding lesson plans?
A) Lesson plans should not be directed toward the course objective; only to the lesson objective.

B) A well-thought out mental outline of a lesson may be used any time as long as the instructor is well prepared.

C) Lesson plans help instructors keep a constant check on their own activity as well as that of their students.

385. H248 CFI

Every lesson, when adequately developed, falls logically into the four steps of the teaching process -

A) preparation, introduction, presentation, and review and application.

B) preparation, presentation, application, and review and evaluation.

C) preparation, introduction, presentation, and review and evaluation.

386. H245 CFI

In planning any instructional activity, the first consideration should be to

A) determine the overall objectives and standards.

B) establish common ground between the instructor and student.

C) identify the blocks of learning which make up the overall objective.

387. H248 CFI

(Refer to figure 1.) Section A is titled:

A) Overview.

B) Objective.

C) Introduction.

388. H248 CFI

(Refer to figure 1.) Section D is titled:

A) Content.

B) Equipment.

C) Instructor's Actions.

389. H248 CFI

A lesson plan, if constructed properly, will provide an outline for

A) proceeding from the unknown to the known.

B) the teaching procedure to be used in a single instructional period.

C) establishing blocks of learning that become progressively larger in scope.

390. H246 CFI

Which statement is true concerning extraneous blocks of instruction during a course of training?

A) They are usually necessary parts of the total objective.

B) They detract from the completion of the final objective.

C) They assist in the attainment of the lesson's objective.

391. H235 CFI

Which would more likely result in students becoming frustrated?

A) Giving the students meaningless praise.

B) Telling students their work is unsatisfactory with no explanation.

C) Covering up instructor mistakes or bluffing when the instructor is in doubt.

392. H235 CFI

Student confidence tends to be destroyed if instructors

A) bluff whenever in doubt about some point.

B) continually identify student errors and failures.

C) direct and control the student's actions and behavior.

393. H223 CFI

A question directed to an entire group to stimulate thought and response from each group member is identified as

A) Relay.

B) Overhead.

C) Rhetorical.

394. H223 CFI

Which question would be best as a leadoff question for a guided discussion on the subject of torque?

A) Does torque affect an airplane?

B) How does torque affect an airplane?

C) What effect does torque have on an airplane in a turn?

395. H223 CFI

When it appears students have adequately discussed the ideas presented during a guided discussion, one of the most valuable tools an instructor can use is

A) a session of verbal testing.

B) a written test on the subject discussed.

C) an interim summary of what the students accomplished.

396. H224 CFI

In the demonstration/performance method of instruction, which two separate actions are performed concurrently?

A) Instructor explanation and demonstration.

B) Student performance and instructor supervision.

C) Instructor explanation and student demonstration.

397. H224 CFI

What is the last step in the demonstration/performance method?

A) Summary.

B) Evaluation.

C) Student performance.

398. H225 CFI

Which statement is true concerning computer-based training (CBT)?

A) CBT may be used by the instructor as stand-alone training.

B) One of the major advantages of CBT is that students can progress at a rate which is comfortable for them.

C) The instructor need not be actively involved with the students when using instructional aids.

399. H221 CFI

The first step in preparing a lecture is to

A) research the subject.

B) develop the main ideas or key points.

C) establish the objective and desired outcome.

400. H220 CFI

The proper sequence for the subparts of an introduction is

A) attention, motivation, and overview.

B) attention, development, and overview.

C) overview, motivation, and conclusion.

401. H220 CFI

The method of arranging lesson material from the simple to complex, past to present, and known to unknown, is one that

A) creates student thought pattern departures.

B) shows the relationships of the main points of the lesson.

C) requires students to actively participate in the lesson.

402. H220 CFI

In developing a lesson, the instructor should organize explanations and demonstrations to help the student

A) achieve the desired learning outcome.

B) acquire a thorough understanding of the material presented.

C) acquire new concepts, generally progressing from the known to the unknown.

403. H221 CFI

An instructor can inspire active student participation during informal lectures through the use of

A) questions.

B) visual aids.

C) encouragement.

404. H222 CFI

The most significant characteristic of group learning is that it

A) continually requires active participation of the student.

B) usually requires passive participation of the student.

C) continually requires active participation of both the student and the instructor.

405. H219 CFI

Which statement is true regarding student evaluation?

A) The student's own evaluations can only be objective.

B) Evaluation of the student's learning should be an integral part of each lesson.

C) If deficiencies or faults not associated with the present lesson are revealed, they should be corrected immediately.

406. H219 CFI

Evaluation of student performance and accomplishment during a lesson should be based on

A) objectives and goals established in the lesson plan.

B) performance of each student compared to an objective standard.

C) each student's ability to make an objective evaluation of their own progress.

407. H238 CFI

Students who grow impatient when learning the basic elements of a task are those who

A) are less easily discouraged than the unaggressive students.

B) should have the preliminary training presented one step at a time with clearly stated goals for each step.

C) should be advanced to the next higher level of learning and not held back by insisting that the immediate goal be reached before they proceed to the next level.

408. H237 CFI

During integrated flight instruction, the instructor must be sure the student

A) develops the habit of looking for other traffic.

B) is able to control the aircraft for extended periods under IMC.

C) can depend on the flight instruments when maneuvering by outside references.

409. H238 CFI

Students quickly become apathetic when they

A) realize material is being withheld by the instructor.

B) understand the objectives toward which they are working.

C) recognize that the instructor is not adequately prepared.

410. H238 CFI

Which is one of the ways in which anxiety will affect a student?

A) Anxiety may limit the student's ability to learn from perceptions.

B) Anxiety will speed up the learning process for the student if properly controlled and directed by the instructor.

C) Anxiety causes dispersal of the student's attention over such a wide range of matters as to interfere with normal reactions.

411. H237 CFI

Integrated flight instruction has many benefits but, the main objective is to

A) develop the student's ability to fly the aircraft during inadvertent IMC.

B) ensure the student is not overly dependent on instruments during VFR flight.

C) help the student develop habit patterns for observance of and reliance on flight instruments.

412. L10 CFI

During training flights, an instructor should interject realistic distractions to determine if a student can

A) learn despite stressful conditions.

B) maintain aircraft control while his/her attention is diverted.

C) perform maneuvers using the integrated method of flight instruction.

413. A20 CFI

A flight review will consist of

A) a minimum of 1 hour ground training and 1 hour flight training.

B) at least 1 hour of flight time to include at least three takeoffs and landings.

C) three takeoffs and landings and a review of those maneuvers necessary for the pilot to demonstrate the appropriate pilot privileges.

414. A26 CFI

The type and date of each student pilot endorsement given shall be maintained by each flight instructor. For what period of time is this record required to be retained?

A) 1 year.

B) 2 years.

C) 3 years.

415. A22 CFI

Prior to a first solo flight, the flight instructor is required to endorse the student's

A) logbook.

B) pilot certificate.

C) logbook and pilot certificate.

416. A22 CFI

Who is responsible for administering the required knowledge test to a student pilot prior to solo flight?

A) Any certificated flight instructor.

B) Any certificated ground instructor.

C) The student's authorized instructor.

417. A22 CFI

One requirement for a student pilot to be authorized to make a solo cross-country flight is an endorsement

A) in the student's logbook that the instructor has given the student cross-country instruction in the model of aircraft to be used.

B) in the student's logbook that the preflight planning and preparation has been reviewed and the student is prepared to make the flight safely.

C) on the Student Pilot Certificate stating the student is competent to make cross-country flights in the category, class, and type of aircraft involved.

418. A22 CFI

To operate an aircraft on a solo flight within Class B airspace, a student must have a logbook endorsement showing that he/she has

A) received flight instruction from any authorized flight instructor on operating within Class B airspace.

B) received ground instruction on and flight instruction in that specific airspace for which solo flight is authorized.

C) within the preceding 90 days, been found to be competent by any flight instructor having knowledge of the student's experience in that specific airspace.

419. B08 CFI

While in flight, a steady red light directed at you from the control tower means

A) continue flight; airport unsafe, do not land.

B) give way to other aircraft; continue circling.

C) return for landing; expect steady green light at the appropriate time.

420. I57 CFI

(Refer to figure 5.) What is the valid period for the TAF for KMEM?

A) 1200Z to 1200Z.

B) 1200Z to 1800Z.

C) 1800Z to 1800Z.

421. I57 CFI

Which in-flight advisory would contain information on severe icing?

A) PIREP.

B) SIGMET.

C) CONVECTIVE SIGMET.

422. I57 CFI

What information would be covered in an AIRMET?

A) Severe turbulence.

B) Extensive mountain obscurement.

C) Hail of 3/4 inch or greater diameter.

423. I57 CFI

(Refer to figure 6.) What sky condition and visibility are forecast for upper Michigan in the eastern portions after 2300Z?

A) Ceiling 1,000 feet overcast and 3 to 5 statute miles visibility.

B) Ceiling 1,000 feet overcast and 3 to 5 nautical miles visibility.

C) Ceiling 100 feet overcast and 3 to 5 statute miles visibility.

424. I64 CFI

(Refer to figure 14.) How are Significant Weather Prognostic Charts best used by a pilot?

A) For overall planning at all altitudes.

B) For determining areas to avoid (freezing levels and turbulence).

C) For analyzing current frontal activity and cloud coverage.

425. I55 CFI

Consider the following statements regarding an Aviation Routine Weather Report (METAR).

1. A vertical visibility entry does not constitute a ceiling.
2. Fog (FG) can be reported only if the visibility is less than 5/8 mile.
3. The ceiling layer will be designated by a 'C'.
4. Mist (BR) can be reported only if the visibility is 5/8 mile up to six miles.
5. Temperatures reported below zero will be prefixed with a '-'.
6. There is no provision to report partial obscurations.

Select the true statements.

A) 2, 4, and 6.

B) 2, 3, and 5.

C) 1, 2, 5, and 6.

426. I55 CFI

(Refer to figure 3.) Which station is reporting the wind as calm?

A) KDAL.

B) KFTW.

C) KTYR.

427. I55 CFI

(Refer to figure 3.) The temperature/dew point spread at KAUS is

A) 4 ºC.

B) 4 ºF.

C) 7 ºC.

428. I55 CFI

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The ASOS report indicates that the location is

A) reporting a temperature of 45 °F.

B) possibly in need of maintenance.

C) augmented with a weather observer.

429. I57 CFI

Vertical visibility is shown on METAR/TAF reports when the sky is

A) overcast.

B) obscured.

C) partially obscured.

430. I56 CFI

(Refer to figure 4.) If the terrain elevation is 1,295 feet MSL, what is the height above ground level of the base of the ceiling?

A) 505 feet AGL.

B) 1,295 feet AGL.

C) 6,586 feet AGL.

431. I65 CFI

(Refer to figure 15.) What percent coverage of severe thunderstorms is forecast to occur in the area of moderate risk in the north-central United States?

A) 6 to 10.

B) 10 to 50.

C) 50 to 90.

432. I60 CFI

(Refer to figure 13, area B.) What is the top for precipitation of the radar return?

A) 24,000 feet AGL.

B) 24,000 feet MSL.

C) 2,400 feet MSL.

433. I58 CFI

The intensity trend of a front (as of chart time) is best determined by referring to a

A) Surface Analysis Chart.

B) Radar Summary Chart.

C) Weather Depiction Chart.

434. I59 CFI

(Refer to figure 12.) what is the status of the front that extends from Nebraska through the upper peninsula of Michigan?

A) Stationary.

B) Warm.

C) Cold.

435. I59 CFI

(Refer to figure 10.) On a Weather Depiction Chart, what does this information mean?

A) Visibility 5 miles, sky obscured.

B) Visibility 5 miles, haze, overcast, ceiling 3,500 feet.

C) Visibility 3 to 5 miles, sky obscured, ceiling 5,000 feet.

436. J25 CFI

What is the expected duration of an individual microburst?

A) One microburst may continue for as long as an hour.

B) Five minutes with maximum winds lasting approximately 2 to 4 minutes.

C) Seldom longer than 15 minutes from the time the burst strikes the ground until dissipation.

437. I28 CFI

When flying low over hilly terrain, ridges, or mountain ranges, the greatest potential danger from turbulent air currents will usually be encountered on the

A) leeward side when flying with the wind.

B) leeward side when flying into the wind.

C) windward side when flying into the wind.

438. I30 CFI

What are the minimum requirements for the formation of a thunderstorm?

A) Sufficient moisture and a lifting action.

B) Sufficient moisture, an unstable lapse rate, and lifting action.

C) Towering cumulus clouds, sufficient moisture, and a frontal zone.

439. I28 CFI

Which condition could be expected if a strong temperature inversion exists near the surface?

A) Strong, steady downdrafts and an increase in OAT.

B) A wind shear with the possibility of a sudden loss of airspeed.

C) An OAT increase or decrease with a constant wind condition.

440. I28 CFI

Low-level wind shear, which results in a sudden change of wind direction, may occur

A) after a warm front has passed.

B) when surface winds are light and variable.

C) when there is a low-level temperature inversion with strong winds above the inversion.

441. I27 CFI

Cool air moving over a warm surface is generally characterized by

A) instability and showers.

B) stability, fog, and drizzle.

C) instability and continuous precipitation.

442. I27 CFI

What type weather can one expect from moist, unstable air and very warm surface temperature?

A) Fog and low stratus clouds.

B) Continuous heavy precipitation.

C) Strong updrafts and cumulonimbus clouds.

443. I27 CFI

Consider the following air mass characteristics:

1. Cumuliform clouds.

2. Stable lapse rate.

3. Unstable lapse rate.

4. Stratiform clouds and fog.

5. Smooth air (above the friction level) and poor visibility.

6. Turbulence up to about 10,000 feet and good visibility except in areas of precipitation.

A moist air mass, which is colder than the surface over which it passes, frequently has which of the above characteristics?

A) 1, 3, and 6.

B) 3, 4, and 5.

C) 2, 4, and 5.

444. I23 CFI

In the Northern Hemisphere, a pilot making a long distance flight from east to west would most likely find favorable winds associated with high- and low-pressure systems by flying to the

A) north of a high and a low.

B) north of a high and to the south of a low.

C) south of a high and to the north of a low.

445. I23 CFI

Which statement is true regarding high- or low-pressure systems?

A) A high-pressure area or ridge is an area of rising air.

B) A low-pressure area or trough is an area of rising air.

C) A high-pressure area is a trough of descending air.

446. I24 CFI

Which is an operational consideration regarding actual air temperature and dewpoint temperature spread?

A) The temperature spread decreases as the relative humidity decreases.

B) The temperature spread decreases as the relative humidity increases.

C) The temperature spread increases as the relative humidity increases.

447. I22 CFI

An aircraft is flying at a constant power setting and constant indicated altitude. If the outside air temperature (OAT) decreases, true airspeed will

A) decrease, and true altitude will decrease.

B) increase, and true altitude will increase.

C) increase, and true altitude will decrease.

448. I22 CFI

As density altitude increases, which will occur if a constant indicated airspeed is maintained in a no-wind condition?

A) True airspeed increases; groundspeed decreases.

B) True airspeed decreases; groundspeed decreases.

C) True airspeed increases; groundspeed increases.

449. I31 CFI

Radiation fog is most likely to occur under what conditions?

A) Warm, moist air being forced upslope by light winds resulting in the air being cooled and condensed.

B) High humidity during the early evening, cool cloudless night with light winds, and favorable topography.

C) Low temperature/dewpoint spread, calm wind conditions, the presence of hydroscopic nuclei, low overcast, and favorable topography.

450. I21 CFI

If the air temperature is +6 °C at an elevation of 700 feet and a standard (average) temperature lapse rate exists, what will be the approximate freezing level?

A) 6,700 feet MSL.

B) 3,700 feet MSL.

C) 2,700 feet MSL.

451. I59 CFI

A Weather Depiction Chart is useful to a pilot in determining

A) the temperature and dew point at selected stations.

B) the forecast areas of cloud cover and precipitation.

C) areas where weather conditions were reported above or below VFR minimums.

452. H135 CFI

What constitutes the payload of a balloon?

A) Weight of the balloon and equipment.

B) Total weight of passengers, cargo, and fuel.

C) Difference between empty weight and maximum certified gross weight.

453. O220 CFI

The part of a balloon that bears the weight of the balloon and its payload is the

A) load tapes.

B) load cables.

C) envelope material.

454. I28 CFI

Consider the following statements about mountain waves:

1. Mountain waves always develop in a series on the upwind (windward) side of mountain ridges.

2. In a mountain wave, the air dips sharply downward immediately to the lee side of a ridge, before rising and falling in a wave motion for a considerable distance downstream.

3. If the air is humid and the wave is of large amplitude, lenticular (lens-shaped) clouds mark the wave's crest.

4. In a typical wave, the greatest amplitude is seldom more than 1,000 feet above the ridge crest elevation.

From the statements above, select those which are true.

A) 2 and 3.

B) 1, 2, and 3.

C) 1, 3, and 4.

455. I35 CFI

Which statement is true regarding the effect of fronts on soaring conditions?

A) A slow-moving front provides the strongest lift.

B) Excellent soaring conditions usually exist in the cold air ahead of a warm front.

C) Frequently the air behind a cold front provides excellent soaring for several days.

456. I35 CFI

The conditions most favorable to wave formation over mountainous areas are a layer of

A) unstable air at mountaintop altitude and a wind of at least 15 to 25 knots blowing across the ridge.

B) stable air at mountaintop altitude and a wind of at least 15 to 25 knots blowing across the ridge.

C) moist, unstable air at mountaintop altitude and a wind of less than 5 knots blowing across the ridge.

457. I35 CFI

When soaring in the vicinity of mountain ranges, the greatest potential danger from vertical and rotor-type currents will usually be encountered on the

A) leeward side when flying with the wind.

B) leeward side when flying into the wind.

C) windward side when flying into the wind.

458. I35 CFI

One of the most dangerous features of mountain waves is the turbulent areas in and

A) below rotor clouds.

B) above rotor clouds.

C) below lenticular clouds.

459. I35 CFI

Which is true regarding the development of convective circulation?

A) Cool air must sink to force the warm air upward.

B) Warm air is less dense and rises on its own accord.

C) Cool air surrounding convective circulation sinks at a greater rate than the warmer air rises (within the thermal), thus forcing the warmer air upward.

460. I35 CFI

An important precaution when soaring in a dust devil is to

A) avoid the eye of the vortex because of extreme turbulence.

B) avoid steep turns on the upwind side to prevent being blown into the vortex.

C) avoid the clear area at the outside edge of the dust because of severe downdrafts.

461. I35 CFI

(Refer to figure 2.) Using the 0900 sounding, what minimum surface temperature is required for instability to occur and for good thermals to develop from the surface to 15,000 feet MSL?

A) 58 °F.

B) 80 °F.

C) 90 °F.

462. H1047 CFI

For a winch tow, which is an advantage of the CG hook over the nose hook?

A) A shallower climb can be used during launch.

B) Glider is less likely to pitch up if the towline breaks.

C) Likelihood of applying too much back-stick pressure is reduced.

463. P04 CFI

When an airship is at pressure height and superheat increases, constant pressure must be maintained by valving

A) gas from the envelope.

B) air from the envelope.

C) air from the ballonets.

464. H05 CFI

Carburetor ice can form

A) only at temperatures near freezing and the humidity near the saturation point.

B) when the outside air temperature is as high as 100 degrees F and the humidity is as low as 50%.

C) at any temperature or humidity level.

465. H01 CFI

Flaring during a landing

A) decreases the powered parachute`s speed due to increased drag.

B) increases the powered parachute`s speed due to reduced drag.

C) decreases the powered parachute`s drag due to increased speed.